

CHAPTER 2 - AIRPORT SYSTEM INVENTORY

2.1 INTRODUCTION

This chapter describes the existing airport system in New Hampshire as of the end of 2001 and early 2002 and served as the database for the overall System Plan. As such, it was updated throughout the course of the study. This Chapter focuses on the aviation infrastructure that makes up the system of airports in the State, as well as aviation activity, airport facilities, airport financing, airspace and air traffic services, as well as airport access. Chapter 3 discusses the general economic conditions within the regions and municipalities that are served by the airport system.

The primary purpose of this data collection and analysis was to provide a comprehensive overview of the aviation system and its key elements. These elements also served as the basis for the subsequent recommendations presented for the airport system. The specific topics covered in this Chapter include:

- Data Collection Process
- Airport System Structure
- Definitions
- Airport Descriptions
- Airspace and Navigational Aids
- Scheduled Air Service Summary
- Airport Financing
- Capital Improvement Program
- Environmental Factors

2.2 DATA COLLECTION PROCESS

The data collection was accomplished through a multi-step process that included cataloging existing relevant literature and data, and conducting individual airport surveys and site visits. Division of Aeronautics provided information from their files that included existing airport master plans, FAA Form 5010 Airport Master Records, financial information, and other pertinent data. Two important element of the data collection process included visits to each of the system airports, as well as surveys of airport managers and users. The airport visits provided additional data, as well as confirmed information obtained from the Division of Aeronautics, particularly regarding the airport's physical facilities, levels of activity, and specific issues affecting the operation and development of each airport. Prior to the airport visits, a survey was sent to each airport manager to complete and use for discussion purposes at the meeting. The survey requested information regarding four broad areas: operational, environmental, political, and financial (see Appendix 2-A). Cooperation from each of the airports visited was extremely helpful. The information gathered was fully incorporated into this chapter, and used in subsequent chapters.

2.3 AIRPORT SYSTEM STRUCTURE

The existing system of airports in New Hampshire is comprised of 25 public use airports that are both publicly and privately owned. Ten of the 25 airports (40%) are privately owned, public use facilities. Three of the airports (12%) have scheduled airline service (Manchester, Pease International Tradeport, and Lebanon), and two of those airports (Manchester and Pease International Tradeport) have air cargo services. Facilities that were not included in this study were privately owned airports, seaplane bases, and heliports, only some of which are registered with the Division of Aeronautics, but are not open for public use. There are an estimated 100 privately owned, private use facilities in the state.

For purposes of this report, nine planning regions were identified that correspond very closely with the economic regions of the state, and is discussed in more detail in Chapter 3. The role of airports within each region, particularly in terms of their economic impact and demographic trends, was also analyzed.

Figure 2-1 depicts the existing 25 airports in the State System Plan, their location within each of the planning regions. The subsequent tables provide additional data for each of the 25 airports in the State System Plan.

Figure 2-1 – Existing Airport System

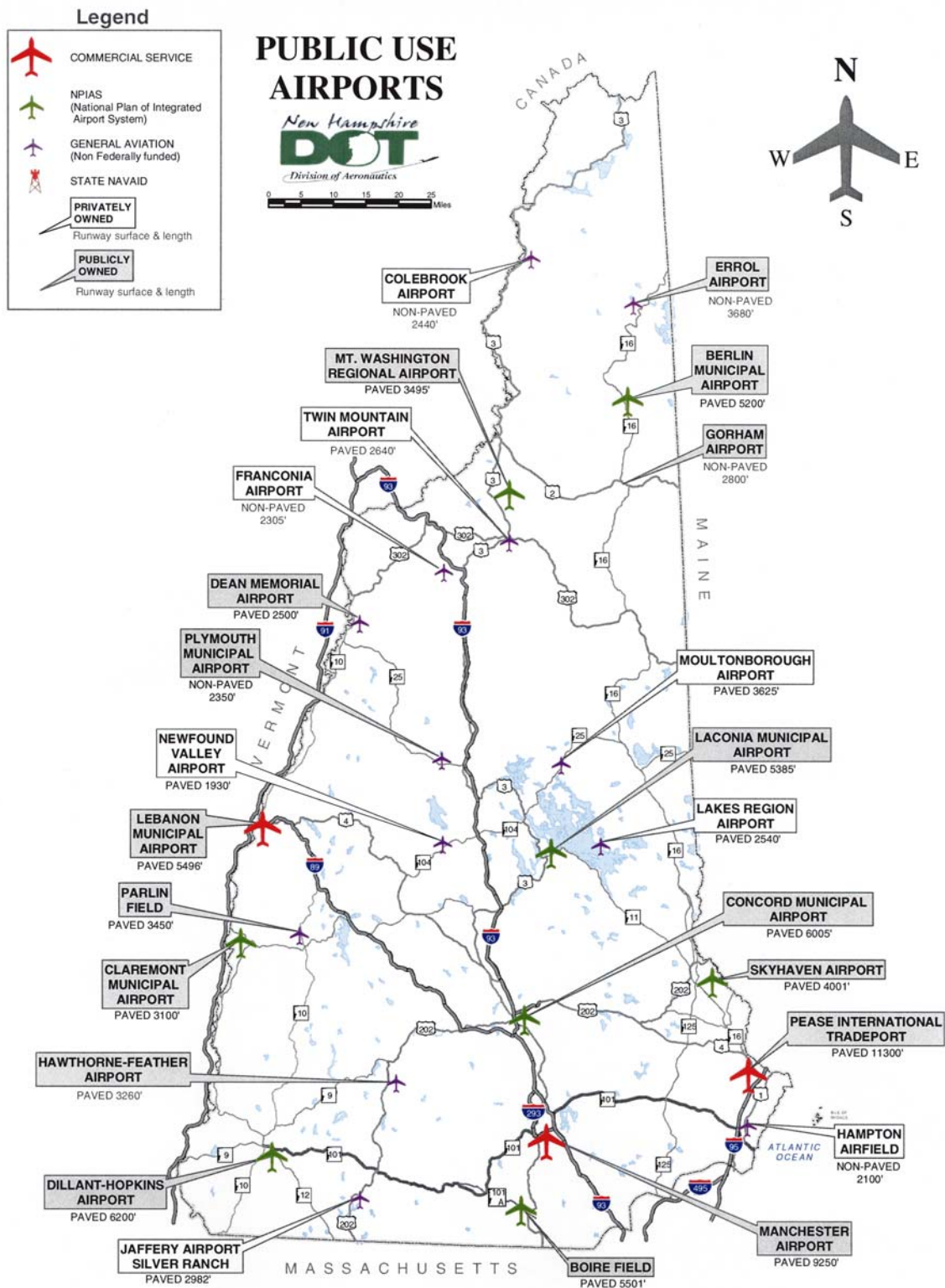


Table 2-1 – State System Airports	
AIRPORT ¹	ECONOMIC DEVELOPMENT REGION
Concord	Central Region
Newfound Valley (Bristol)	Lakes Region
Laconia (Gilford)	Lakes Region
Lakes Region (Wolfeboro)	Lakes Region
Moultonboro	Lakes Region
Boire Field (Nashua)	Nashua Region
Berlin (Milan)	North Country Region
Colebrook	North Country Region
Errol	North Country Region
Franconia	North Country Region
Gorham	North Country Region
Dean Memorial (Haverhill)	North Country Region
Mt. Washington Regional (Whitefield)	North Country Region
Plymouth	North Country Region
Twin Mountain	North Country Region
Hampton Airfield (North Hampton)	Rockingham Region
Pease International Tradeport (Portsmouth/Newington)	Rockingham Region
Manchester (Manchester/Londonderry)	South Region
Hawthorne (Hillsborough/Deering)	Southwest Region
Silver Ranch – (Jaffrey)	Southwest Region
Dillant-Hopkins (Sawzey/Keene)	Southwest Region
Skyhaven (Rochester)	Strafford Region
Claremont	Upper Valley Region
Lebanon	Upper Valley Region
Parlin Field (Newport)	Upper Valley Region
1. Location of airport in municipalities shown in parentheses	

Four of the nine regions have a single airport (South, Central, Nashua, and Strafford), while the North Country, which has the lowest population and employment density in the state, has nine airports.

2.4 DEFINITIONS

Prior to discussing each airport, it is prudent to provide some technical background in order to clarify and define certain aviation-related terminology. The following sections describe key elements of an airport's role, service level, and physical facilities.

2.4.1 AIRPORT CLASSIFICATION

The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) identifies airports that are significant to the national air transportation system and defines the roles and function of

airports, as shown in the table below. In addition, the NPIAS identifies the capital improvements required at those airports that are eligible for federal aid. The NPIAS defines the type and role of every airport in the national airport system, and that classification system is useful in this System Plan. In New Hampshire, there are 14 airports (56%) currently included in the NPIAS. However, three of those airports Silver Ranch, Plymouth Municipal, and Parlin Field, do not meet the current requirements for federal funding. One important reason for classifying airports is to identify eligibility for funding, as well as the relative priority of capital improvement projects.

U.S. Airport Categories and Distribution of National Activity			
Number Airports	Airport Type	Percentage of All Pass. Enplanements	Percentage of Active GA Aircraft *
31	Large-Hub Primary	69.6	1.3
37	Medium-Hub Primary	19.3	2.9
74	Small-Hub Primary	7.7	4.7
280	Non-Hub Primary	3.2	11.3
124	Other Commercial Service	0.1	2.0
2,558	General Aviation	0.0	37.2
260	Relievers	0.0	27.1
3,364	Total Existing NPIAS Airports	100%	86.4%
15,942	Other Low Activity Landing Areas (Non-NPIAS)	0%	13.6%
* Based on active aircraft fleet of 219,464 aircraft in 1999. * Source: FAA NPIAS, 2001-2005			

FAA has identified two broad classifications of airports, Commercial Service and General Aviation. Commercial Service airports are those that have scheduled passenger service and that have 2,500 or annual passenger enplanements (boardings). In addition, there are different levels of Commercial Service Airports that are defined by the volume of passenger enplanement activity. Primary airports, for example, enplane 10,000 passengers or more each year, and those facilities are eligible for FAA entitlement money, as well as discretionary grants. Until recently, all three commercial service airports in New Hampshire (Manchester, Pease International Tradeport, and Lebanon) were primary airports, but traffic at Lebanon Airport has declined and in 2002 passenger volumes fell below FAA's threshold. In addition, passenger enplanements at Pease International Tradeport have been close to the threshold for primary airports as well.

The second classification is General Aviation (GA), which accounts for all of the airports that do not have commercial service. Twenty-two airports in the current State System Plan are classified as general aviation. GA airports accommodate a wide range of aircraft, from very small single-engine piston aircraft to corporate turboprop and jet aircraft.

A sub-set of GA airports is known as Reliever airports. Those facilities "relieve" congestion at commercial service airports such as large hub airports like Boston Logan. Relievers typically provide an alternate airport close to a congested hub airport for general aviation and corporate aircraft, thus relieving traffic at the congested hub. Only Boire Field in Nashua is presently classified as a GA reliever airport in New Hampshire.

It should be noted that there are no heliports or seaplane bases listed in the current State System Plan. In order to be included in the State System Plan, the facility must be public-use, which is defined as a facility that allows public access without prior permission. The owner of the facility must request inclusion in the System Plan, and the Division of Aeronautics must approve it.

2.4.2 AIRPORT REFERENCE CODE

The Airport Reference Code (ARC) determines the appropriate airport design criteria promulgated by FAA. The ARC directly affects design criteria such as runway length and width, separation between the runway, taxiways, and parking aprons, the size of runway safety areas, etc. The ARC correlates the design and layout of the airport to the operational and physical characteristics of the ‘critical design aircraft’.

FAA advisory circular AC 150/5300-13, *Airport Design*, defines the critical design aircraft as the largest airplane to use the airport on a regular basis. FAA AC 150/5325-4A, *Runway Length Requirements*, Chapter 1, Section 2, defines regular basis as a minimum of 250 operations (takeoffs and landings) per year. The ARC is comprised of two elements, or codes; the Aircraft Approach Category and the Aircraft Design Group as shown in Table 2-2. Typical aircraft in each of these ARC’s are shown in Appendix 2-B.

Table 2-2 – Airport Reference Code		
Approach Category	Minimum Speed (knots)	Maximum Speed (knots)
A	> 0	< 91
B	> 91	< 121
C	> 121	< 141
D	> 141	< 166
E	> 166	N/A
Aircraft Design Group	Minimum Wingspan (feet)	Minimum Wingspan (feet)
I	> 0	< 49
II	> 49	< 79
III	> 79	< 118
IV	> 118	< 171
V	> 171	< 214
VI	> 214	< 262

Source: FAA AC 150/5300-13, *Airport Design*

If the design aircraft is not currently operating at the airport, but is expected to in the future, then the airport’s ARC may be upgraded through the Master Planning process. Manchester Airport and Pease International Tradeport, for example, can accommodate the largest critical design aircraft in the state. At Manchester, the ARC is C-IV, which is based on the Boeing B-767-200, while at Pease International Tradeport, the ARC is D-IV, based on the McDonnell Douglas DC-10-30. Pease International Tradeport also accommodates military KC-135s aerial tankers, transient C-5s cargo aircraft, as well as civilian cargo Boeing B-747s. Airports such as Lebanon, Boire Field, Dillant Hopkins, Concord, Laconia, and Berlin, have sufficient runway length (5,000ft.) to accommodate corporate jets that typically fall within approach category B and C, and wingspans in design group II.

2.4.3 AVIATION ACTIVITY

There are a number of terms that define activity levels at an airport, as shown below:

Aircraft Operation – An aircraft operation is defined as either an aircraft landing or taking off. Activity at an airport is a sum of these operations. Twenty-one airports in the State System do not have control towers and are all General Aviation airports. Activity at these airports is not typically counted unless a specific program is in place to do so. Thus, aviation activity is typically estimated by the airport manager and fixed base operators. At airports with control towers (Manchester, Boire Field, Pease International Tradeport, and Lebanon), air traffic control personnel count activity while the tower is open, and this information is made available to the public. The control towers at Manchester and Pease International Tradeport are open 24 hours

per day; seven days a week, while the control towers at Boire Field and Lebanon are closed at night. As a result, the tower counts at Boire Field and Lebanon do not capture all of the operations at those airports, although they do count the large majority of activity.

Itinerant Operation – An itinerant aircraft operates to and from an airport other than its home base. For example, an airplane that takes off from Manchester, flies to Laconia lands there and parks temporarily, and then takes off for and lands back at Manchester, has conducted two itinerant operations at Laconia. Itinerant aircraft typically park at an airport for some duration before departing to another airport, and as a result utilize the runways, taxiways, transient parking, and terminal facilities.

Local Operation – An aircraft flying in the airport traffic pattern or a training operation within 20 miles of the airport where the operation starts and ends conducts a local operation. The large majorities of local operations are those conducted in the airport traffic pattern, and are primarily training missions. Aircraft based at an airport typically generate most of the local operations at an airport. For example, Boire Field has several large flight schools, including Daniel Webster College, and many students conduct local operations (takeoffs and landings) as part of their training program.

Based Aircraft – A based aircraft is an aircraft that is stored or parked at an airport for more than 90 consecutive days. Aircraft based in New Hampshire are required to register with the Division of Aeronautics, and pay an annual aircraft operating fee. As discussed in more detail later in this study, because New Hampshire has no sales tax, some aircraft owned by residents and businesses in Massachusetts were based in NH (mainly at Boire Field and Pease International Tradeport) due to the lower cost, particularly corporate turboprops and jets. In 2002, Massachusetts changed their state tax law to exempt aircraft and parts from their sales tax in an effort to prevent future airplanes from being based in New Hampshire.

Passenger Enplanement – A passenger enplanement is defined as a revenue passenger boarding at a commercial service airport.

Aircraft Classifications – Aircraft are classified by the following aircraft type:

- Single Engine (piston)
- Multi Engine (piston)
- Turboprop (single or twin)
- Turbojet
- Rotorcraft
- Other (ultralights, gliders, etc.)

Regarding the aircraft reference code (ARC) described previously, most single and twin engine-piston aircraft fall within ARC A & B and design group I & II. Most corporate turboprops and jets fall with ARC B & C and design group II, while commercial jet aircraft typically fall within ARC C-III and higher. ARC does not classify ultralights and gliders.

2.5 AIRPORT DESCRIPTIONS

This section details each of the airport's facilities, location, and ground access and is grouped by economic planning region. Summary tables present general airport data (Table 2-3), Aviation Activity (Table 2-4), Based Aircraft (Tables 2-5), and Runway Data (Table 2-6). Figures 2-2 to 2-26 present pertinent data on each airport individually.

It should be noted that the information in Tables 2-4 and 2-5 represents the most current information available on based aircraft and operations for each airport from the FAA Airport Master Record Form 5010 information and the Airport Facility Directory published by the FAA. The Division of Aeronautics collects the 5010 data as part of their on-going airport inspection program.

Table 2-3 –Airport Data						
Region/Airport	County	Ownership	ARC	Runway Surface	Control Tower	Fuel Available
Central Region						
Concord	Merrimack	Public	C-II	Paved	No	100LL, Jet-A
Lakes Region						
Newfound Valley	Grafton	Private	A-I	Paved	No	No
Laconia	Belknap	Public	C-II	Paved	No	100LL; Jet-A
Lakes Region	Carroll	Private	B-I	Paved	No	No
Moultonboro	Carroll	Private	B-I	Paved	No	100LL
Nashua Region						
Boire Field	Hillsborough	Public	C-II	Paved	Yes	100LL, Jet-A
North Country Region						
Berlin	Coos	Public	B-II	Paved	No	100LL, Jet-A
Colebrook *	Coos	Private	A-I	Turf	No	No
Errol *	Coos	Private	A-I	Turf	No	No
Franconia *	Grafton	Private	A-I	Turf	No	No
Gorham *	Coos	Public	A-I	Turf	No	No
Dean Memorial	Grafton	Public	B-I	Paved	No	100LL
Mt Washington Regional	Coos	Public	B-I	Paved	No	100LL; Jet-A
Plymouth	Grafton	Public	A-I	Turf	No	100LL
Twin Mountain	Coos	Private	B-I	Paved	No	100LL
Rockingham Region						
Hampton Airfield *	Rockingham	Private	B-I	Turf	No	100LL; 80
Pease International Tradeport	Rockingham	Public	D-IV	Paved	Yes	100LL; Jet-A
South Region						
Manchester	Hillsborough	Public	C-IV	Paved	Yes	100LL; Jet-A
Southwest Region						
Hawthorne	Hillsborough	Private	B-I	Paved	No	100LL
Silver Ranch	Cheshire	Private	B-II	Paved	No	100LL
Dillant Hopkins	Cheshire	Public	C-II	Paved	No	100LL; Jet A
Strafford Region						
Skyhaven	Strafford	Public	B-II	Paved	No	100LL; Jet A
Upper Valley						
Claremont	Sullivan	Public	B-I	Paved	No	100LL
Lebanon	Grafton	Public	C-II	Paved	Yes	100LL; Jet-A
Parlin Field	Sullivan	Public	B-I	Paved	No	100LL
* Airports operate on a seasonal basis Source: NHDOT-DOA, FAA 5010, and AFD/NE						

Table 2-4 –Based Aircraft

Region/Airport	SE	ME	Jet	Helicopter	Gliders	Military	Ultra-light	Total
Central Region								
Concord ¹	58	9	0	2	0	10	2	81
Lakes Region								
Newfound Valley	3	0	0	0	0	0	0	3
Laconia	79	18	0	0	0	0	0	97
Lakes Region	12	1	0	2	0	0	0	15
Moultonboro	15	1	0	0	0	0	1	17
Nashua Region								
Boire Field	350	22	1	1	0	0	0	403
North Country Region								
Berlin	25	1	0	0	0	0	0	26
Colebrook	6	0	0	0	0	0	0	6
Errol	6	0	0	0	0	0	0	6
Franconia	1	0	0	0	11	0	0	12
Gorham	4	0	0	0	0	0	0	4
Dean Memorial	11	0	0	2	0	0	0	13
Mt. Washington Regional	30	6	0	0	0	0	0	36
Plymouth	13	0	0	0	0	0	3	16
Twin Mountain	3	0	0	0	0	0	0	3
Rockingham Region								
Hampton Airfield	67	0	0	2	1	0	0	70
Pease International Tradeport ¹	31	22	25	3	0	10	0	91
South Region								
Manchester	71	7	7	0	0	0	0	85
Southwest Region								
Hawthorne	10	0	0	0	0	0	3	13
Silver Ranch	35	1	0	1	0	0	4	41
Dillant Hopkins	50	4	0	0	0	0	0	54
Stafford Region								
Skyhaven	55	3	0	0	0	0	10	68
Upper Valley Region								
Claremont	19	2	0	0	0	0	1	22
Lebanon	59	10	0	6	1	0	0	76
Parlin Field	11	0	0	0	0	0	0	11

SE = single engine. ME = multi-engine.
1. NH Army National Guard 1159th Medical Company UH-60 Blackhawk helicopters, Air National Guard 157th Air Refueling Wing – KC 135
Source: NHDOT-DOA and FAA 5010

Table 2-4A - Regional Summary of Based Aircraft								
Region/Airport	SE	ME	Jet	Helicopter	Gliders	Military	Ultra-light	Total (%)
Central Region								
Sub-Total	58	9	0	2	0	10	2	81 (7%)
Lakes Region								
Sub-Total	109	20	0	2	0	0	1	132 (11%)
Nashua Region								
Sub-Total	350	22	1	1	0	0	0	374 (30%)
North Country Region								
Sub-Total	99	7	0	2	11	0	3	122 (10%)
Rockingham Region								
Sub-Total	98	22	25	5	1	10	0	161 (12%)
South Region								
Sub-Total	71	7	7	0	0	0	0	85 (7%)
Southwest Region								
Sub-Total	95	5	0	1	0	0	7	108 (9%)
Stafford Region								
Sub-Total	55	3	0	0	0	0	10	68 (5%)
Upper Valley Region								
Sub-Total	89	18	0	10	1	0	1	109 (9%)
STATEWIDE TOTAL								
	1,024	107	33	19	13	20	24	1,240 (100%)
	82 %	8.6%	2.7%	1.5%	1.0%	1.6%	1.9%	
Source: NHDOT-DOA and FAA 5010								

Table 2-5 –Annual Aircraft Operations

Airport	Air Carrier	Commuter	Air Taxi	GA Local	GA Itinerant	Military	Total
Central Region							(9.8%) 56,700
Concord ^{1/}	0	0	1,930	19,040	31,390	4,340	56,700
Lakes Region							(9.5%) 54,503
Newfound Valley ^{1/}	0	0	0	1,200	0	0	1,200
Laconia	0	0	345	31,900	2,998	100	35,343
Lakes Region	0	0	50	3,000	3,000	10	6,060
Moultonboro ^{1/}	0	0	30	7,435	4,435	0	11,900
Nashua Region							(17.5%) 101,633
Boire Field	0	0	560	49,186	51,786	101	101,633
North Country Region							(5.8%) 33,250
Berlin ^{1/}	0	0	0	9,000	5,000	0	14,000
Colebrook ^{1/}	0	0	0	750	750	0	1,500
Errol ^{1/}	0	0	25	512	213	0	750
Franconia	0	0	0	4,000	500	0	4,500
Gorham ^{1/}	0	0	0	650	324	26	1,000
Dean Memorial	0	0	0	3,500	500	0	4,000
Mt. Washington Regional ^{1/}	0	0	0	1,250	1,250	0	2,500
Plymouth ^{1/}	0	0	0	2,500	1,500	0	4,000
Twin Mountain ^{1/}	0	0	0	0	1,000	0	1,000
Rockingham Region							(12.9%) 74,639
Hampton Airfield	0	0	0	30,000	7,500	0	37,500
Pease International Tradeport	3,752	0	800	7,354	17,512	7,720	37,138
South Region							(18.7%) 107,832
Manchester	38,495	23,011	0	45,740	0	586	107,832
Southwest Region							(11.5%) 66,442
Hawthorne ^{1/}	0	0	0	1,500	0	0	1,500
Silver Ranch	0	0	1,030	3,342	6,076	200	10,648
Dillant Hopkins	0	6,676	1,302	34,389	8,257	3,670	54,294
Strafford Region							(3.2%) 18,592
Skyhaven	0	0	0	1,200	1,100	0	18,592
Upper Valley Region							(10.9%) 63,080
Claremont	0	0	103	5,854	4,502	0	10,459
Lebanon	0	3,543	359	23,761	18,988	240	46,891
Parlin	0	0	0	3,445	2,285	0	5,730
Total Operations							576,670
1/ Operational breakdown estimated by management							
Source: NHDOT-DOA and FAA 5010							

Table 2-6 – Runway Data

Region/Airport	Runway Orientation	Runway Length	Runway Width	Instrument Approaches	Lighting and Visual Aids	Surface
Central Region						
Concord	12-30	3,200'	175'	VOR/GPS 12;	(PLANNED)	Asphalt
	17-35	6,005'	150'	ILS 35; NDB/GPS 35; GPS 17	HIRL; REIL /PAPI-17; MALSR/VASI-35	Asphalt
Lakes Region						
Newfound Valley	3-21	1,835'	40'	VISUAL	PLANNED	Asphalt
Laconia	8-26	5,286'	100'	ILS-8; NDB/GPS-8; GPS-26;	MIRL; MALSR/VASI-8; REIL/VASI-26	Asphalt
Lakes Region	12-30	2,540'	50'	VISUAL	LIRL (non-standard)	Asphalt
Moultonboro	2-20	3,625'	50'	VISUAL	LIRL (non-standard)	Asphalt
Nashua Region						
Boire Field	14-32	5,501'	100'	ILS-14; VOR/GPS-A; VOR-32; NDB/GPS-14; GPS-32	HIRL; MALSR/PAPI-14; REIL /VASI-32;	Asphalt
North Country Region						
Berlin	18-36	5,200'	100'	VOR/DME-18; NDB-18; GPS-18, VOR/GPS-B	MIRL, REIL/PAPI-18; REIL-36	Asphalt
Colebrook	4-22	2,440'	75'	VISUAL	NONE	Turf
Errol	15-33	3,680'	75'	VISUAL	NONE	Gravel
Franconia	18-36	2,305'	150'	VISUAL	NONE	Turf
Gorham	12-30	2,800'	70'	VISUAL	NONE	Turf
Dean Memorial	1-19	2,500'	60'	VISUAL	LIRL (non-standard)	Asphalt
Mt. Washington Regional	10-28	3,495'	75'	LOC-10; NDB-10;	MIRL; VASI-10; REIL-28	Asphalt
Plymouth	12-30	2,380'	90'	VISUAL	NONE	Turf
Twin Mountain	09-27	2,640'	60'	VISUAL	LIRL (non-standards)	Asphalt
Rockingham Region						
Hampton Airfield	2-20	2,100'	170'	VISUAL	LIRL (non-standard)	Turf
Pease International Tradeport	16-34	11,321'	150'	ILS-16; ILS-34; VOR/TACAN/GPS-34; VOR-16; GPS-16	HIRL; MALSR/PAPI-16; MALSR/PAPI-34	Asphalt/Concrete Grooved
South Region						
Manchester	6-24	7,573'	150'	VOR/DME/RNAV-6; GPS-6	HIRL; REIL-24	Asphalt-Grooved
	17-35	9,250'	150'	ILS-17; ILS-35; VOR/DME/GPS-17; VOR-35; NDB/GPS-35;	HIRL; MALSR/VASI-17; MALSR/PAPI-35	Asphalt-Grooved
Southwest Region						
Hawthorne	2-20	3,260'	75'	VISUAL	MIRL	Asphalt

Table 2-6 – Runway Data (Cont.)

Airport Name	Runway Orientation	Runway Length	Runway Width	Approaches	Lighting and Visual Aids	Surface
Silver Ranch	16-34	2,982	134	VOR/GPS-A	LIRL (non-standard)	Turf/Asphalt
Dillant-Hopkins	14-32 2-20	4,001 6,201	150 100	NONE ILS 2; VOR 2; GPS 2	MIRL HIRL; MALSR/PAPI-2; PAPI-20	Asphalt Asphalt
Strafford Region						
Skyhaven	15-33	4,001	100	VOR/DME/GPS-A; NDB-33; GPS-33; NDB/GPS-B	MIRL; REIL/PAPI-33	Asphalt
Upper Valley Region						
Claremont	11-29	3,100	100	NDB-A; GPS-29	MIRL; REIL/VASI-29	Asphalt
Lebanon	7-25 18-36	5,496 5,200	100 100	VOR/DME-7; VOR-25; NDB/GPS-B; GPS-7; GPS-25 ILS-18;	MIRL; REIL/PAPI-7; REIL/VASI-25 HIRL; REIL-18/PAPI-36	Asphalt Asphalt
Parlin	12-30 18-36	1,950 3,450	80 50	NONE NONE	NONE PLANNED	Turf Asphalt
Source: NHDOT-DOA, FAA 5010, AFD/NE, Site Visits						

Glossary of Terms

DME – Distance measuring equipment

GPS – Global positioning system

HIRL – High intensity runway lights

ILS – Instrument landing system (precision instrument approach)

LIRL – Low intensity runway lights

LOC - Localizer

MALSR – Medium intensity approach light system with runway alignment indicator lights

MIRL – Medium intensity runway lights

NDB – Non-directional beacon (low frequency navigation transmitter)

PAPI – Precision approach path indicator lights

REIL – Runway end identifier lights

TACAN – Tactical Air Navigation (military navigation transmitter)

VASI – Visual approach slope indicator lights

VOR – Very high frequency omni-directional radio range (VHF navigation transmitter)

Central Region

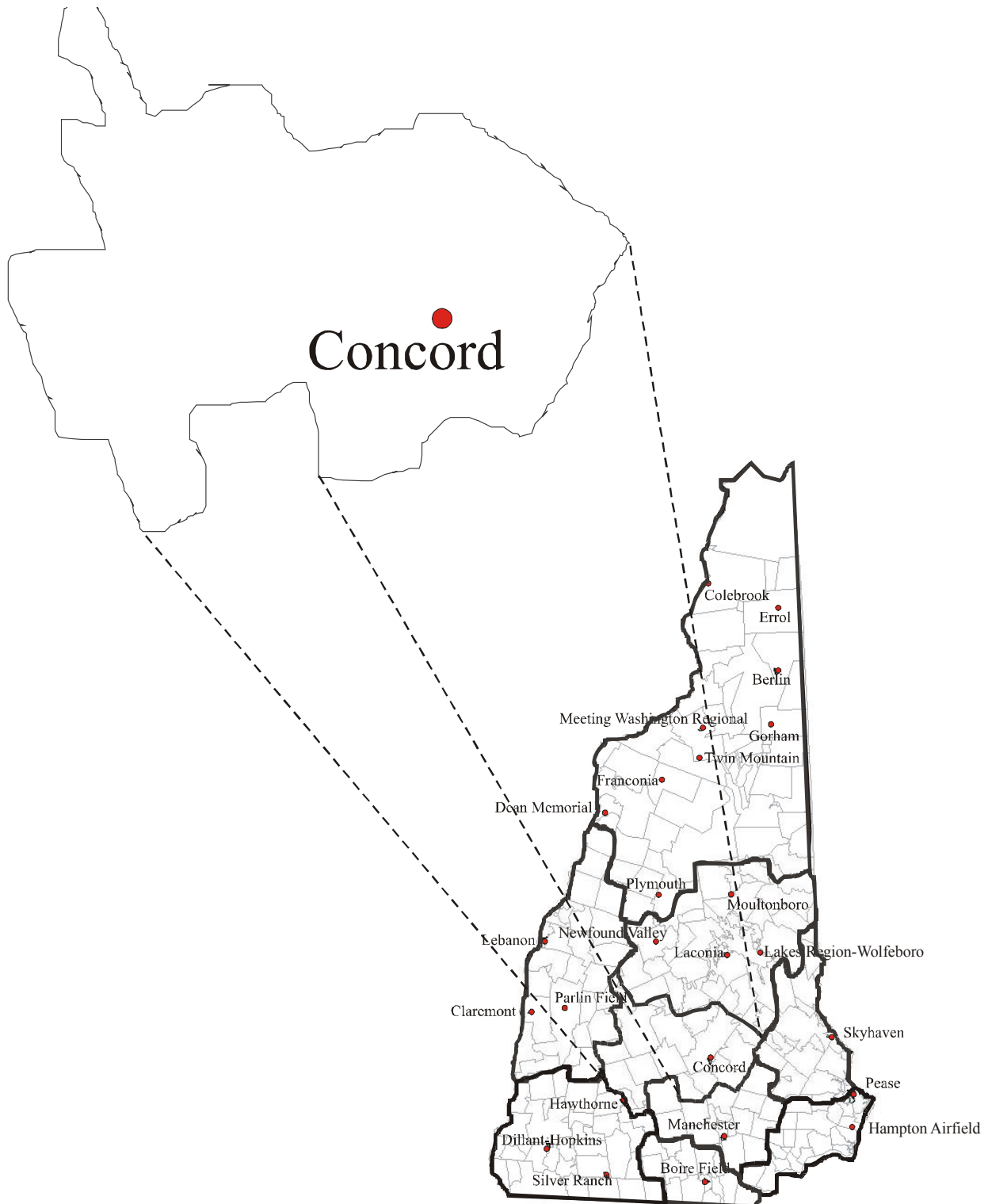


Figure 2-2 – Concord

Airport Name: CONCORD

FAA ID: CON

ARC: C-II

Ownership: Public

Economic Region: Central

County: Merrimack

Airport Role: General Aviation

Airspace: Class E

Zoning: Airport

Fuel: 100LL, Jet

Weather Information: ASOS/HIWS

Fixed Based Operator: Yes

Navigation Aids: VORTAC/NDB/ILS

Airport Latitude: 42-53-542.38 N

Airport Longitude: 72-16-148.12 W

Runway Information:

Orientation: 12-30 17-35

Length: 3,200' 6,005'

Width: 150' 100'

Instrument

Approaches: VOR/GPS 12; ILS 35; NDB/GPS 35; GPS 17

Lighting: NONE HIRL 17-35; REIL /PAPI 17; MALS/RVASI 35

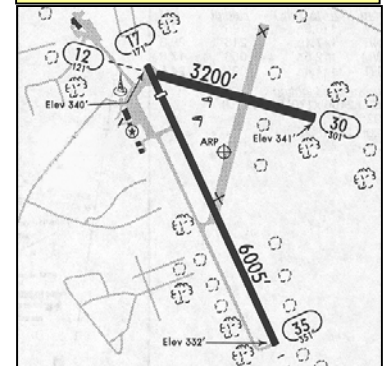
Surface: ASPHALT ASPHALT

Condition: Poor Good

Airport Picture



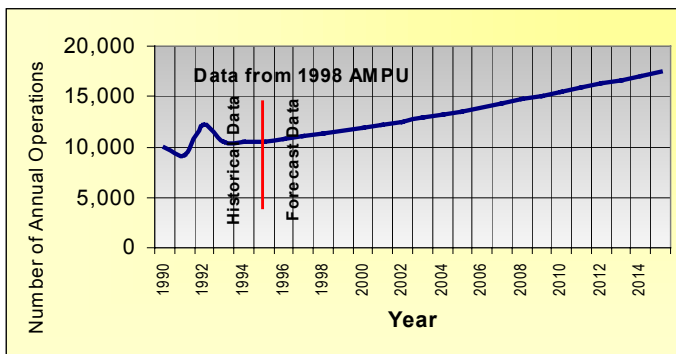
Airport Diagram



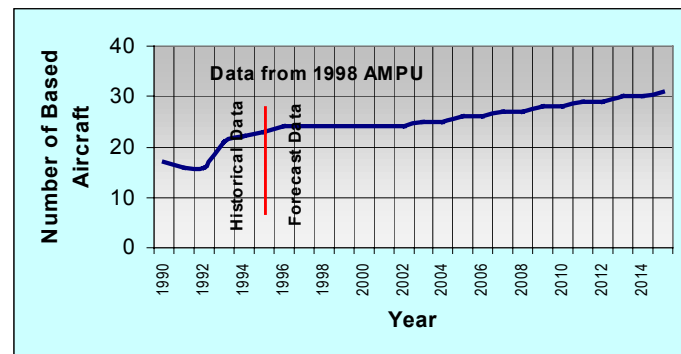
Airport Location



Operations



Based Aircraft



Source: 1998 AMPU

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

CONCORD MUNICIPAL AIRPORT

Airport Ownership and Management

The airport is owned and operated by the City of Concord. The City's General Services Administration oversees the airport in terms of building and grounds maintenance and plowing. Concord Air Services (FBO) serves as the airport manager under contract to the City. The city's Airport Advisory Committee (chaired by an ex-Mayor), which reports to the Concord City Council, serves in an advisory role relative to airport financial and administrative operations.

Municipal Summary

Government Type:	Manager and Council
Municipal Budget (02):	\$58,700,985
Fiscal Year:	July to June
Budget Prepared:	January through May
Budget Voted/Adopted:	May
Population (00):	40,687

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$251,085			
Operating Expenses	\$312,976			
Capital Revenues	\$759,773			
Capital Expenditures	N/A			

Services Municipality Provides to Airport: Grounds Maintenance (snow clearing and grass cutting)

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grant funds contribute to maintaining the airport grounds, however, funds from other airport sources (land leases, etc.) are used to properly maintain the facility. The airport sponsor maintains the facility to the best of their ability.

Fixed Base Operator (FBO)

One full service FBO. The City has a contract for aviation and on-site airport management with the current FBO, which was secured through a competitive bid process.

Airport Contact Information

Robert Rolla (Airport Manager)
 Jim Howard (City of Concord Finance Director)
 Martha Drukker (City of Concord Engineer)

Lakes Regions

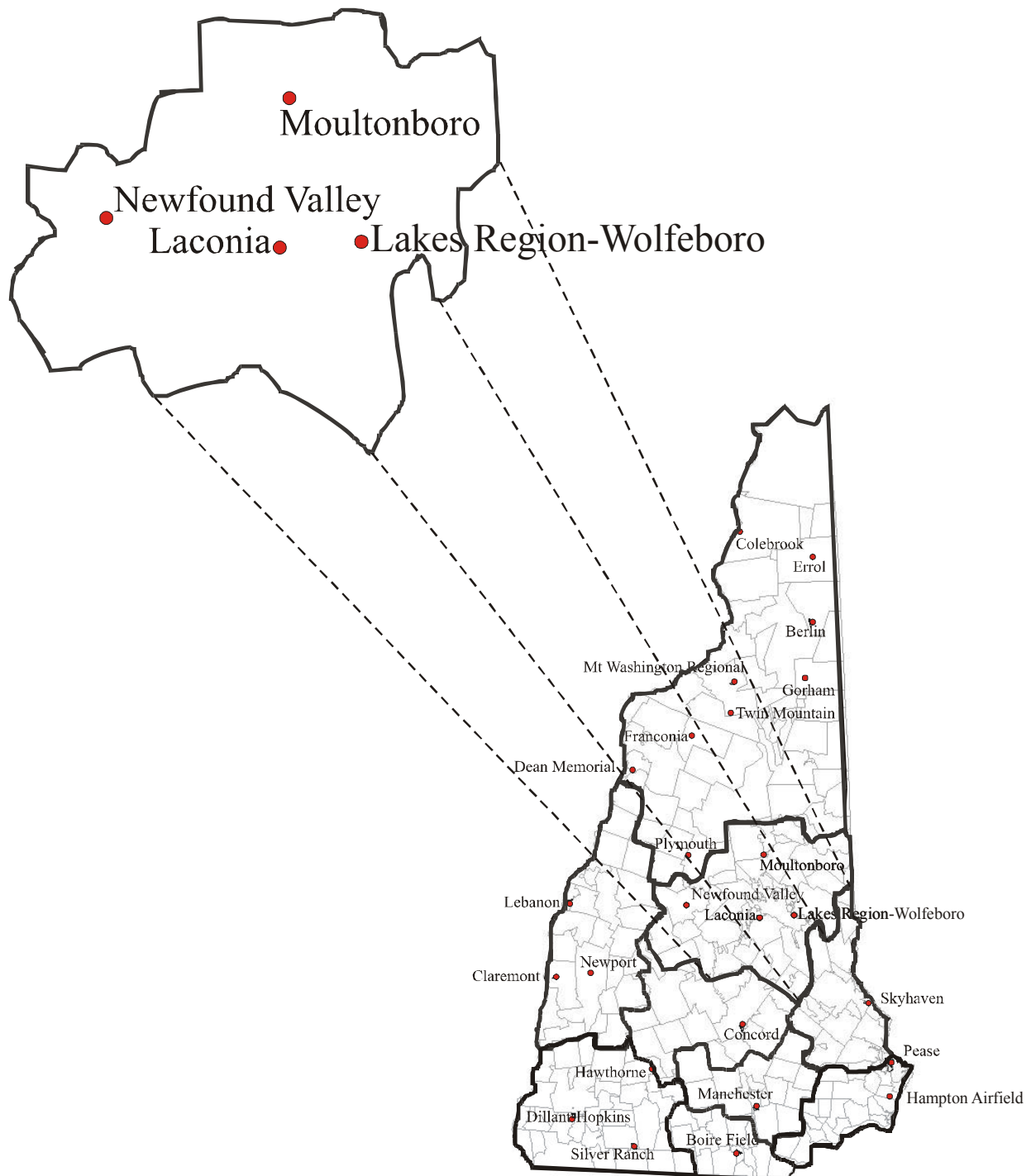


Figure 2-3 – Newfound Valley - Bristol

Airport Name: NEWFOUND VALLEY - BRISTOL

FAA ID: 2N2

ARC: A-I

Ownership: Private

Economic Region: Lakes

County: Grafton

Airport Role: General Aviation

Airspace: Class G

Zoning: Industrial

Fuel: None

Weather Information: None

Fixed Based Operator: No

Navigation Aids: None

Airport Latitude: 43.35.312.65 N

Airport Longitude: 71.45.052.85 W

Runway Information:

Orientation: 3-21

Length: 1,800'

Width: 30'

Instrument Approaches: NONE

Lighting: NONE

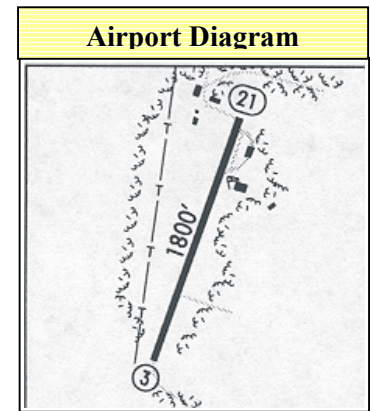
Surface: Asphalt-Gravel

Condition: Fair

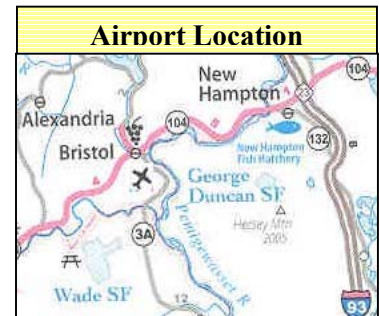
Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 1,200

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 3

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

NEWFOUND VALLEY - BRISTOL

Airport Ownership and Management

Newfound Valley Airport is a privately owned facility that is managed by a full-time airport manager and a small group of volunteers (based aircraft owners).

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	N/A			
Operating Expenses	N/A			
Capital Revenues	N/A			
Capital Expenditures	N/A			

According to the Airport Manager, airport revenues are minimal and consist of tie-down fees collected by airport users. Airport financial information was not available.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

According to the Airport Manager, the facility received approximately \$19,000 in grants and 50/50 match funds in 2002, which it used to resurface the runway. The source of the airport's portion of the 50/50 funds came directly from the airport owner as well as based aircraft owners and contributions from volunteers.

Fixed Base Operator (FBO)

No FBO or fuel.

Airport Contact Information

Doug Williams (Airport Manager)
Boake Morrison (Airport Owner)

Figure 2-4— Laconia

Airport Name: LACONIA

FAA ID: LCI

ARC: C-II

Ownership: Public

Economic Region: Lakes

County: Belknap

Airport Role: General Aviation

Airspace: Class G

Zoning: Industrial / Airport overlay zone

Fuel: 100LL; Jet

Weather Information: AWOS

Fixed Based Operator: Yes

Navigation Aids: VORTAC/NDB/ILS

Airport Latitude: 43.34.218.21N

Airport Longitude: 71.25.080.41W

Runway Information:

Orientation: 8-26

Length: 5,286'

Width: 100'

Instrument

Approaches: ILS-8; NDB/GPS-8; GPS-26;

Lighting: MIRL 8-26; MALSR/VASI 8;
REIL/VASI 26

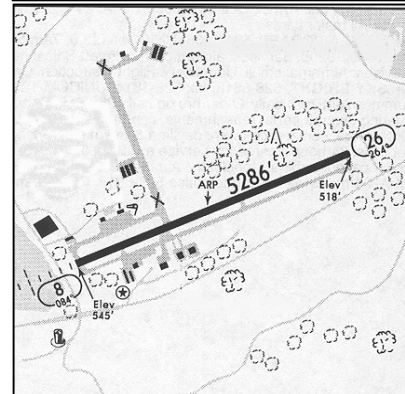
Surface: Asphalt

Condition: Good

Airport Picture



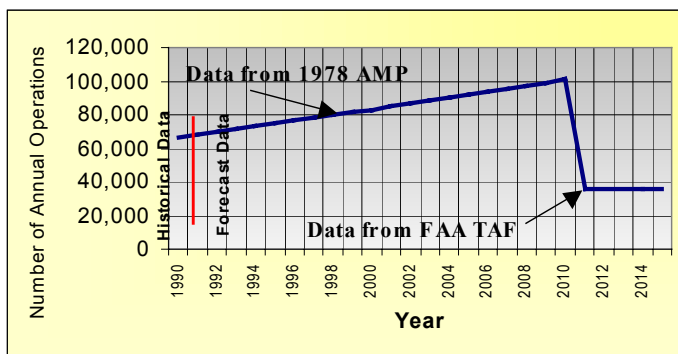
Airport Diagram



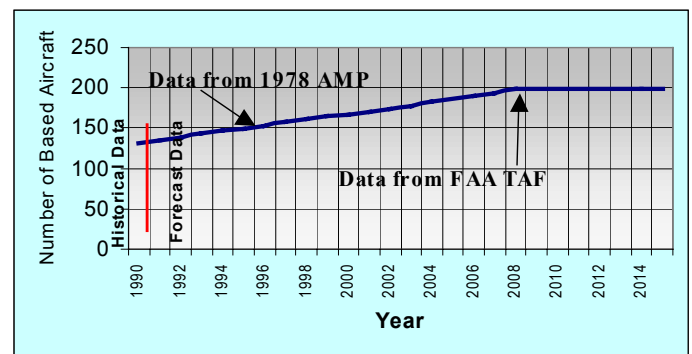
Airport Location



Operations



Based Aircraft



Source: 1978 AMPU

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

LACONIA MUNICIPAL AIRPORT

Airport Ownership and Management

The airport is owned by the City of Laconia, and located in the town of Gilford. There is an Airport Authority that was established by state legislature. The Authority has 9 members with the Mayor of Laconia is being the Authority Chairperson. Gilford selectmen have two seats on the Authority, and there are 6 at-large seats, one of which goes to the County Commissioner, and at least three of the remaining seats must go to Laconia. The Authority is primarily advisory in nature. The City of Laconia formally acts as the sponsor, and the Mayor signs the grants, and the City Council approves the leases.

Municipal Summary

Government Type:	Manager and Council
Municipal Budget (02):	\$39,714,736
Fiscal Year:	July to June
Budget Prepared:	February/March
Budget Adopted/Vote:	April
Population (00):	16,411

Services Municipality Provides to Airport: None

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$275,050			
Operating Expenses	\$208,465			
Capital Revenues	\$526,471			
Capital Expenditures	\$410,831			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Easement acquisition

Fixed Base Operator (FBO)

3 FBOs. Sponsor lease or contractual arrangement information unavailable.

Airport Contact Information

Diane Cooper (Airport Manager)
 Pam Reynolds (City Financial Director)
 Mark Fraser (Mayor/Chair Airport Authority)

Figure 2-5- Lakes Region – Wolfeboro

Airport Name: LAKES REGION -WOLFEBORO

FAA ID: 8B8

ARC: B-I

Ownership: Private

Economic Region: Lakes

County: Carroll

Airport Role: General Aviation

Airspace: Class G

Zoning: Unknown

Fuel: None

Weather Information: None

Fixed Based Operator: No

Navigation Aids: None

Airport Latitude: 43.35.152.80 N

Airport Longitude: 71.15.582.48 W

Runway Information:

Orientation: 12-30

Length: 2,540'

Width: 50'

Instrument

Approaches: NONE

Lighting: LIRL

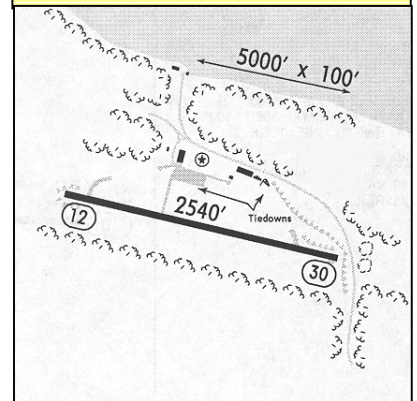
Surface: Asphalt

Condition: Good

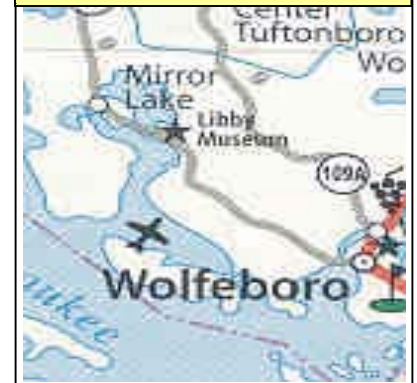
Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 6,060

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 15

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION**LAKES REGION WOLFBORO AIRPORT****Airport Ownership and Management**

Lakes Region Wolfboro Airport is a privately owned public use airport with a full-time on-site security associate.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	N/A			
Operating Expenses	N/A			
Capital Revenues	N/A			
Capital Expenditures	N/A			

According to the airport owner, the facility has annual operating losses. No financial information was provided.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

According to the airport owner, the facility received approximately \$2,900 from the state which was used for maintenance of the airport grounds including equipment fuel and grass cutting.

Fixed Base Operator (FBO)

No FBO.

Airport Contact Information

Don Satterfield (Airport Owner)
Frank Covey (Airport Security)

Figure 2-6- Moultonboro

Airport Name: MOULTONBORO
FAA ID: 5M3
ARC: B-I
Ownership: Private
Economic Region: Lakes
County: Carroll
Airport Role: General Aviation
Airspace: Class E
Zoning: Residential
Fuel: 100LL
Weather Information: None
Fixed Based Operator: No
Navigation Aids: VORTAC
Airport Latitude: 43.35.152.80 N
Airport Longitude: 71.15.582.48 W

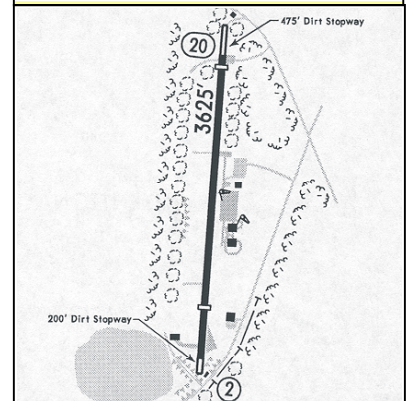
Runway Information:

Orientation: 2-20
Length: 3,625'
Width: 50'
Instrument Approaches: None
Lighting: PCL (NSTD)
Surface: Asphalt
Condition: Fair

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 11,900

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 15

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

MOULTONBOROUGH AIRPORT

Airport Ownership and Management

The Moultonborough Airport is a privately owned facility with two part-time on-site airport managers.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$5,162			
Operating Expenses	\$5,508			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Snow Plowing
- Equipment Repairs (Truck and Snow Plow)
- Snow Clearing Labor
- Electricity (Airport Lights) and Utilities (Gas, Telephone)
- Septic Service

Fixed Base Operator (FBO)

No FBO. Fuel is available.

Airport Contact Information

Rick Frederick (Airport Manager)
Tom Condon (Airport Owner)

Nashua Region

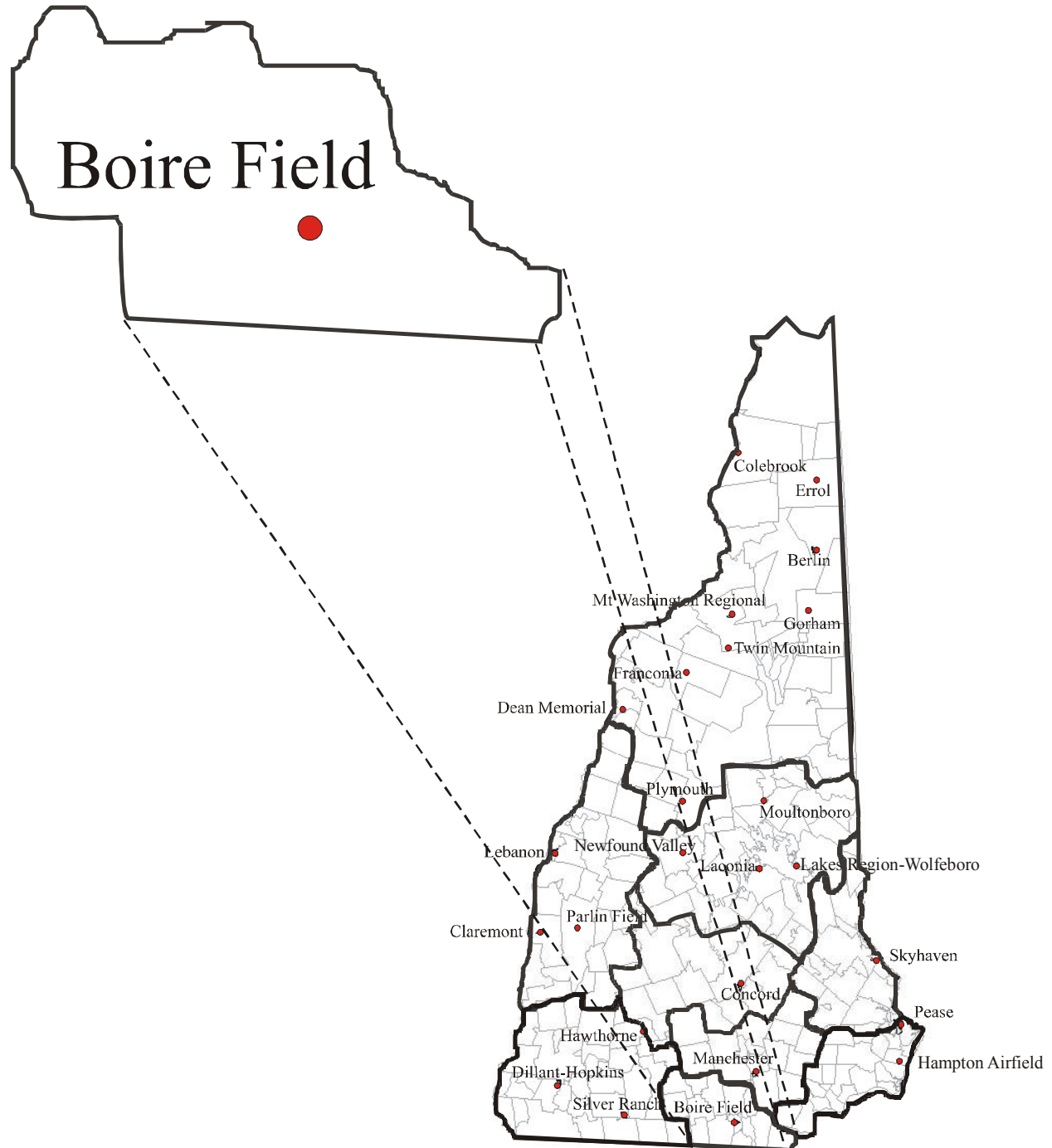


Figure 2-7 –Boire Field - Nashua

Airport Name: BOIRE FIELD - NASHUA

FAA ID: ASH

ARC: C-II

Ownership: Public

Economic Region: Nashua

County: Hillsborough

Airport Role: General Aviation

Airspace: Class D

Zoning: Airport

Fuel: 100LL, Jet

Weather Information: None

Fixed Based Operator: Yes

Navigation Aids: VOR/DME; NDB

Airport Latitude: 42.46.543.47 N

Airport Longitude: 71.30.532.06 W

Runway Information:

Orientation: 14-32

Length: 5,501'

Width: 100'

Instrument

Approaches: ILS-14; VOR/GPS-A; VOR-32;
NDB/GPS-14; GPS-32

Lighting: HIRL 14-32; MALSR/PAPI 14; REIL
/VASI 32;

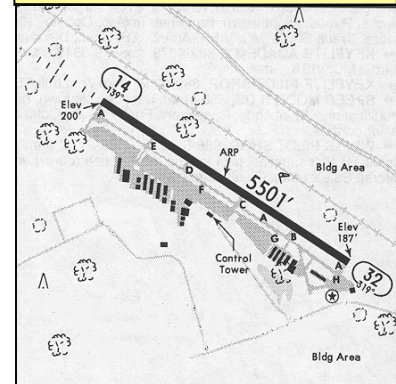
Surface: Asphalt

Condition: Good

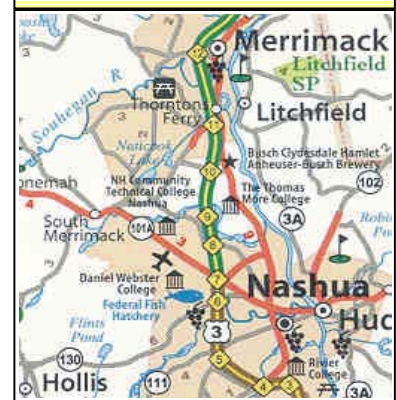
Airport Picture



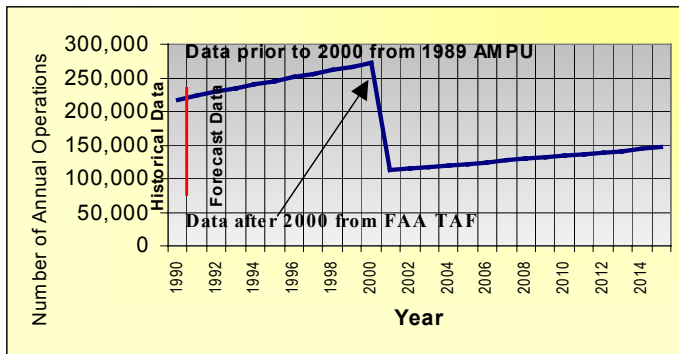
Airport Diagram



Airport Location

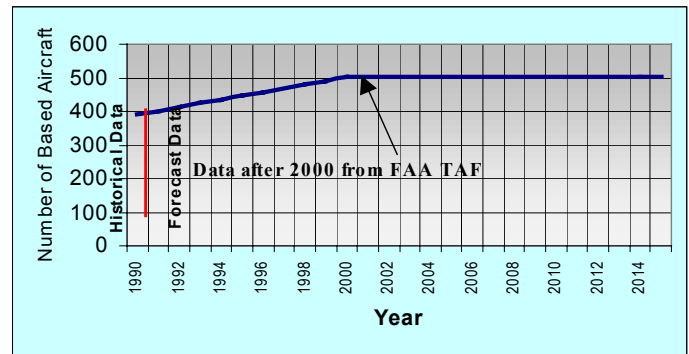


Operations



Source: 1989 AMPU, FAA Terminal Area Forecast

Based Aircraft



AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

BOIRE FIELD

Airport Ownership and Management

Boire Field at Nashua is a public airport facility which is owned by the City of Nashua and operated and managed by the Nashua Airport Authority. The airport authority was created by State Legislation whose members are appointed by the Mayor of Nashua. The facility has a full-time manager who is employed by the airport authority.

Municipal Summary

Government Type:	Mayor and Council (Aldermen)
Municipal Budget (02):	\$174,954,287
Fiscal Year:	July to June
Budget Prepared:	Spring
Budget Adopted/Vote:	N/A
Population (00):	86,605

Services Municipality Provides to Airport: Provides group health and vehicle coverage

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$378,596			
Operating Expenses	\$332,404			
Capital Revenues	\$484,733			
Capital Expenditures	\$398,565			

The airport is financially self-sufficient with majority of operational revenue generated through land leases, aircraft tie-down fees, and fuel flowage fees. Historically, the Airport's books have come under review by Nashua's aldermen as the City provided the 5% matching funds needed for Airport Improvement Program projects. However, due to the financial stability of the airport, the 5% match from the City is no longer necessary. As a measure of good faith, the Airport Authority meets regularly with Aldermen and provides an annual budget for review. The City of Nashua receives over \$400,000 annually in property tax revenue from businesses located on an off airport property.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

Airport management indicated that airport grant and other operating funds contributed significantly to the operations and maintenance of the facility. Specific use of airport grant funds was not available.

Fixed Base Operator (FBO)

The facilities 2 FBOs lease land from the Airport Authority as well as pay a monthly fuel farm rental fee, fuel flowage fee (\$0.06/gallon for avgas and \$0.07 for avjet fuel), and pass along tie-down fees to the authority.

Airport Contact Information

Royce Rankin (Airport Manager)

North Country

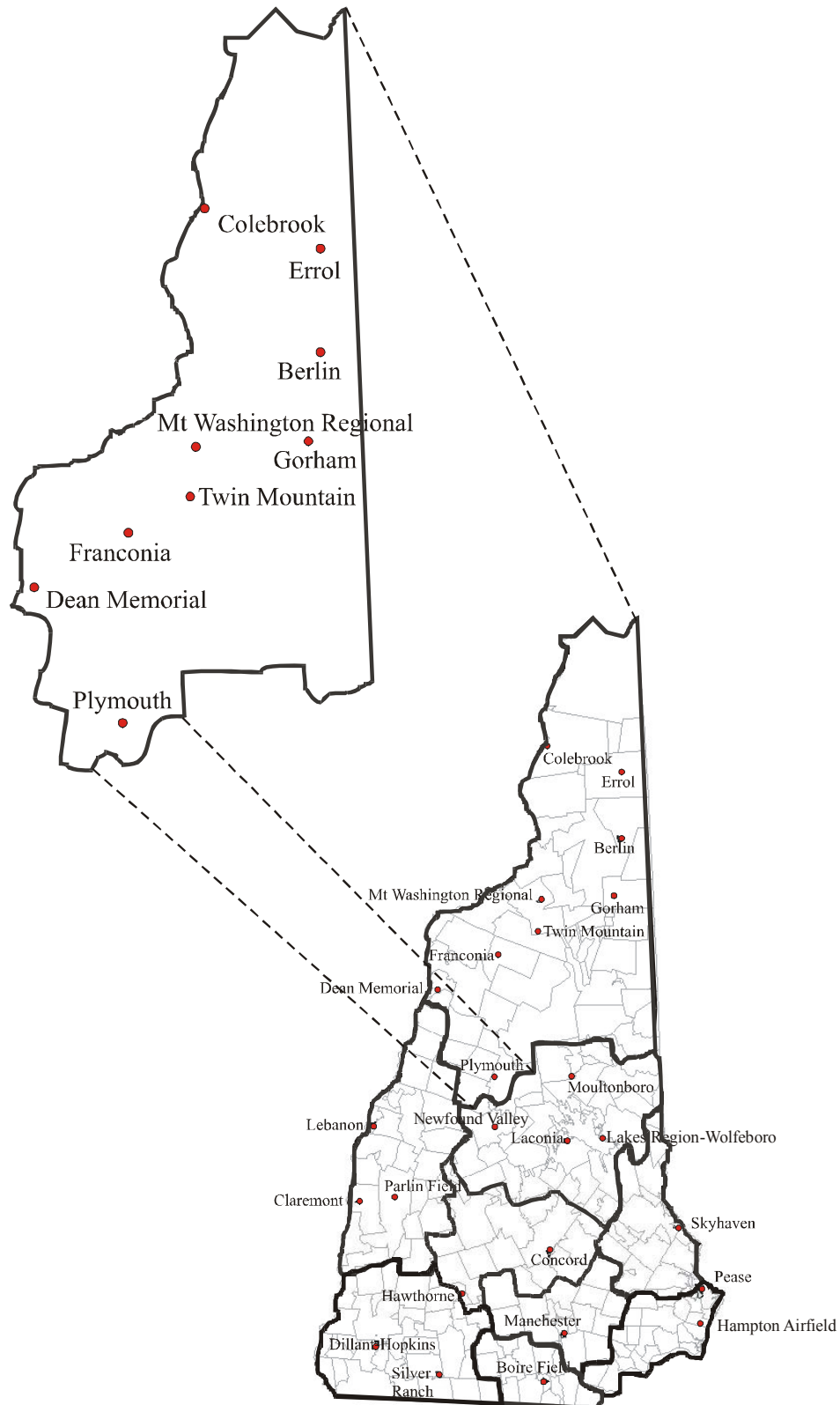


Figure 2-8 – Berlin

Airport Name: BERLIN
FAA ID: BML
ARC: C-II
Ownership: Public
Economic Region: North Country
County: Coos
Airport Role: General Aviation
Airspace: Class G
Zoning: Residential/Agricultural
Fuel: 100LL, Jet

Weather Information: ASOS/HIWS
Fixed Based Operator: Yes (Part-Time)
Navigation Aids: VOR/NDB
Airport Latitude: 44.34.313.42 N
Airport Longitude: 71.10.333.54 W

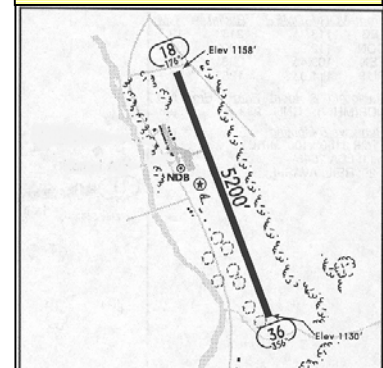
Runway Information:

Orientation: 18-36
Length: 5,200'
Width: 100'
Instrument Approaches: VOR/DME-18, NDB-18, GPS-18, VOR/GPS-B
Lighting: MIRL 18-36, REIL/PAPI 18; REIL 36
Surface: Asphalt
Condition: Good

Airport Picture



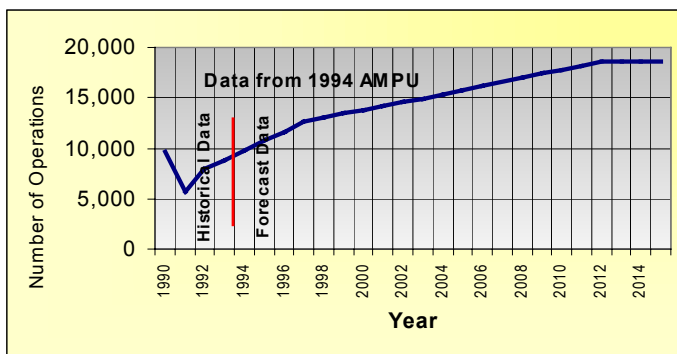
Airport Diagram



Airport Location

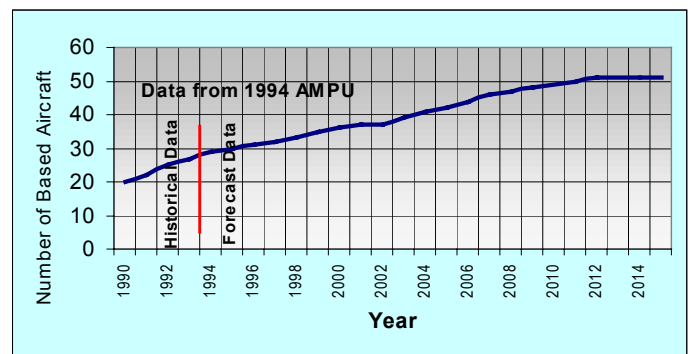


Operations



Source: 1994 AMPU

Based Aircraft



AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

BERLIN MUNICIPAL AIRPORT

Airport Ownership and Management

Although the Berlin Municipal Airport is located in Milan, New Hampshire, the Berlin Airport Authority owns the facility with financial and administrative operations coordinated through the City of Berlin. The Airport Authority is a seven member agency with representation from the City of Berlin, Town of Milan and Coos County. An airport manager and two part-time staff coordinate day to day airport management.

Municipal Summary

Government Type:	Manager and Council
Municipal Budget (02):	\$26,284,706
Fiscal Year:	July to June
Budget Prepared:	January through spring
Budget Adopted/Vote:	N/A
Population (00):	10,331

Services Municipality Provides to Airport: Grounds Maintenance (snow clearing and grass cutting)

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$151,288			
Operating Expenses	\$185,033			
Capital Revenues	\$76,224			
Capital Expenditures	\$31,362			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grant and airport operating funds used to support general airport maintenance (snow plowing and grounds maintenance)

Fixed Base Operator (FBO)

Aviation fuel available. An independent contractor is available on a part-time basis to provide aviation instruction and aircraft maintenance. All airport facilities are owned by the City of Berlin.

Airport Contact Information

Robert Theberge (Town Manager)
Eric Kaminsky (Airport Manager)

Figure 2-9 - Colebrook

Airport Name: COLEBROOK
FAA ID: 4C4
ARC: A-1
Ownership: Private
Economic Region: North Country
County: Coos
Airport Role: General Aviation
Airspace: Class G
Zoning: No zoning
Fuel: None
Weather Information: None
Fixed Based Operator: No
Navigation Aids: None
Airport Latitude: 44.53.001.70 N
Airport Longitude: 71.29.583.03 W

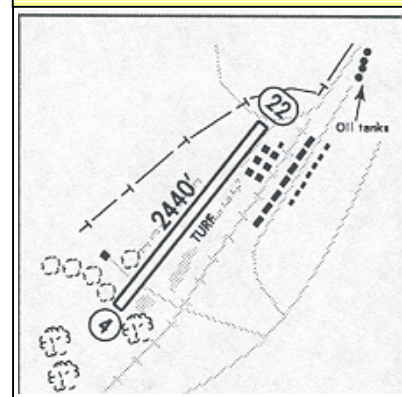
Runway Information:

Orientation: 4-22
Length: 2,440'
Width: 74'
Instrument Approaches: None
Lighting: None
Surface: Turf
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 1,500

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 6

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

COLEBROOK AIRPORT

Airport Ownership and Management

The Colebrook Airport is a privately owned facility. The turf runway at Colebrook is open year round with most flights utilizing the facility during spring through fall.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,628			
Operating Expenses	\$850			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Grounds maintenance (brush and grass cutting and runway rolling) expenses
- Utilities (electricity)

Fixed Base Operator (FBO)

No FBO

Airport Contact Information

Douglas Brooks (Airport Manager)
Ian Stevenson (Airport Owner)

Figure 2-10 - Errol

Airport Name: ERROL
FAA ID: ERR
ARC: A-I
Ownership: Private
Economic Region: North Country
County: Coos
Airport Role: General Aviation
Airspace: Class G
Zoning: Residential
Fuel: None
Weather Information: None
Fixed Based Operator: No
Navigation Aids: None
Airport Latitude: 44.47.331.79 N
Airport Longitude: 71.09.512.82 W

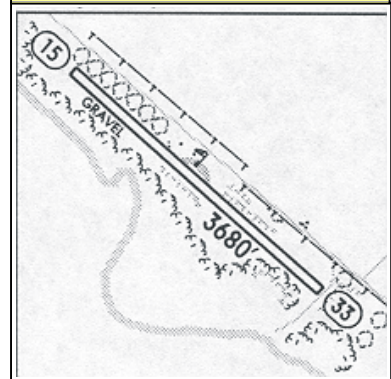
Runway Information:

Orientation: 15-33
Length: 3,680'
Width: 75'
Instrument Approaches: None
Lighting: None
Surface: Gravel
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 750

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 6

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

COLEBROOK AIRPORT

Airport Ownership and Management

The Colebrook Airport is a privately owned facility. The turf runway at Colebrook is open year round with most flights utilizing the facility during spring through fall.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,628			
Operating Expenses	\$850			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Grounds maintenance (brush and grass cutting and runway rolling) expenses
- Utilities (electricity)

Fixed Base Operator (FBO)

No FBO

Airport Contact Information

Douglas Brooks (Airport Manager)
Ian Stevenson (Airport Owner)

Figure 2-11 - Franconia

Airport Name: FRANCONIA
FAA ID: 1B5
ARC: A-1
Ownership: Private
Economic Region: North Country
County: Grafton
Airport Role: General Aviation
Airspace: Class G
Zoning: Unknown
Fuel: None
Weather Information: None
Fixed Based Operator: Yes
Navigation Aids: None
Airport Latitude: 44.11.452.29 N
Airport Longitude: 71.44.583.10 W

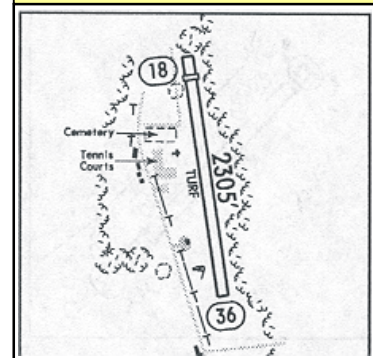
Runway Information:

Orientation: 18-36
Length: 2,305'
Width: 150'
Instrument Approaches: None
Lighting: None
Surface: Turf
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 4,500

Based Aircraft

Estimated Based Aircraft = 12 (11 gliders)

Source: FAA Form 5010 Master Record

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

FRANCONIA AIRPORT

Airport Ownership and Management

The Franconia Airport is a privately owned facility with a turf runway which is open from spring until fall depending on runway conditions. The Franconia Soaring Association – a gliding club for members and non-members, primarily uses the facility. As a lodging facility neighboring the airport, the Franconia Inn uses the facility within its marketing campaign to attract guests who are interested taking advantage of the opportunity to experience gliding in the White Mountains.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,841			
Operating Expenses	\$5,400			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Owner Relative to Airport Maintenance

- Insurance
- Grounds and building maintenance
- Property taxes

Fixed Base Operator (FBO)

Ramp or tiedown facilities provided on site. FBO operational arrangements N/A.

Airport Contact Information

Richard Morris/Franconia Inn
Franconia Soaring Association

Figure 2-12 – Gorham

Airport Name: GORHAM
FAA ID: 2G8
ARC: A-I
Ownership: Public
Economic Region: North Country
County: Coos
Airport Role: General Aviation
Airspace: Class G
Zoning: Residential
Fuel: None
Weather Information: None
Fixed Based Operator: No
Navigation Aids: None
Airport Latitude: 44.23.352.20 N
Airport Longitude: 71.11.482.72 W

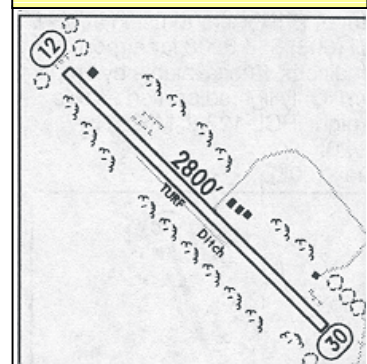
Runway Information:

Orientation: 12-30
Length: 2,815'
Width: 80'
Instrument Approaches: None
Lighting: None
Surface: Turf
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 1,000

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 4

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

GORHAM AIRPORT

Airport Ownership and Management

The Gorham Airport is owned and operated by the Town of Gorham. Day to day airport maintenance, operation and management are coordinated on a part-time basis through the Town of Gorham Water and Sewer Commission. The turf runway facility is open seasonally from spring through fall.

Municipal Summary

Government Type:	Selectmen
Town Meeting:	March
Municipal Budget (02):	\$3,719,327
Fiscal Year:	January through December
Budget Prepared:	Late Summer
Budget Adopted/Vote:	N/A
Population (00):	2,895

Services Municipality Provides to Airport: Grounds Maintenance (snow clearing and grass cutting)

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,717			
Operating Expenses	\$11,858			
Capital Revenues	\$0			
Capital Expenditures	\$0			

A Warrant Article for approximately \$3,000 was approved at the 2002 Gorham Town Meeting for sod replacement and maintenance of the runway.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

The Town uses State operating grants and Airport Operating Funds for maintenance of the turf runway including grass cutting and periodic rolling.

Fixed Base Operator (FBO)

No FBO. Fueling is not permitted.

Airport Contact Information

William Jackson (Town Manager)
Lee Carroll (Airport Manager)

Figure 2-13 –Dean Memorial - Haverhill

Airport Name: DEAN MEMORIAL - HAVERHILL

FAA ID: 5B9

ARC: B-I

Ownership: Public

Economic Region: North Country

County: Grafton

Airport Role: General Aviation

Airspace: Class G

Zoning: No zoning

Fuel: 100LL

Weather Information: None

Fixed Based Operator: No

Navigation Aids: None

Airport Latitude: 44.04.502.33 N

Airport Longitude: 72.00.283.19 W

Runway Information:

Orientation: 1-19

Length: 2,500'

Width: 60'

Instrument Approaches: None

Lighting: None

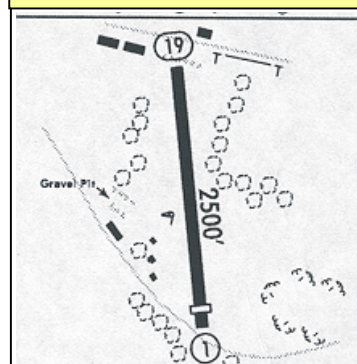
Surface: Asphalt

Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 4,000

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 13

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

DEAN MEMORIAL AIRPORT

Airport Ownership and Management

The Dean Memorial Airport is a public airport which is owned by the Town of Haverhill and operated through an airport commission comprised of municipal and airport officials.

Municipal Summary

Government Type:	Selectmen/Town Manager
Town Meeting:	March
Municipal Budget (02):	\$2,120,081
Fiscal Year:	January through December
Budget Prepared:	October through December
Budget Adopted/Vote:	March
Population (00):	4,416

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$22,700			
Operating Expenses	\$15,197			
Capital Revenues	\$10,915			
Capital Expenditures	\$3,960			

Services Municipality Provides to Airport: None

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

Funds have been used to support airport maintenance and acquisition of equipment (tractor) for grounds maintenance and snow removal. It is anticipated that an additional funding source will be needed in order to complete an anticipated runway resurfacing project over the next few years. Current levels of funding are adequate to support routine facility maintenance.

Fixed Base Operator (FBO)

No FBO. Aviation fuel is available.

Airport Contact Information

Glenn English (Town Manager)
Jim Fortier (Airport Manager)

Figure 2-14– Mt Washington Regional - Whitefield

Airport Name: MOUNT WASHINGTON REGIONAL - WHITEFIELD

FAA ID: HIE

ARC: B-II

Ownership: Public

Economic Region: North Country

County: Coos

Airport Role: General Aviation

Airspace: Class G

Zoning: No zoning

Fuel: 100LL; Jet

Weather Information: ASOS

Fixed Based Operator: Yes

Navigation Aids: VOR/DME/NDB/LOC/GPS

Airport Latitude: 44.22.034.19 N

Airport Longitude: 71.32.400.96 W

Runway Information:

Orientation: 10-28

Length: 3,495'

Width: 75'

Instrument

Approaches: LOC-10; NDB-10; GPS-10

Lighting: MIRL 10-28; VASI 10; REIL 28

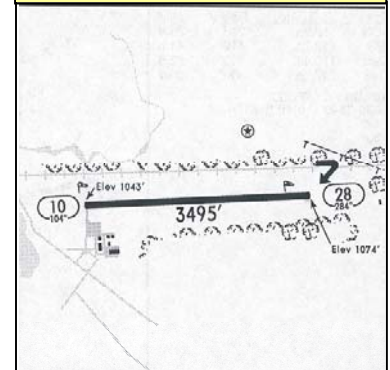
Surface: Asphalt

Condition: Good

Airport Picture



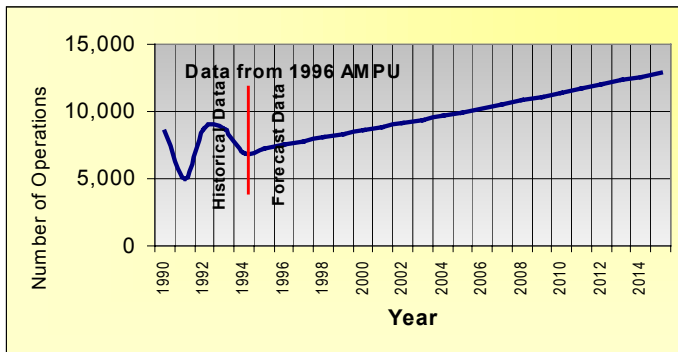
Airport Diagram



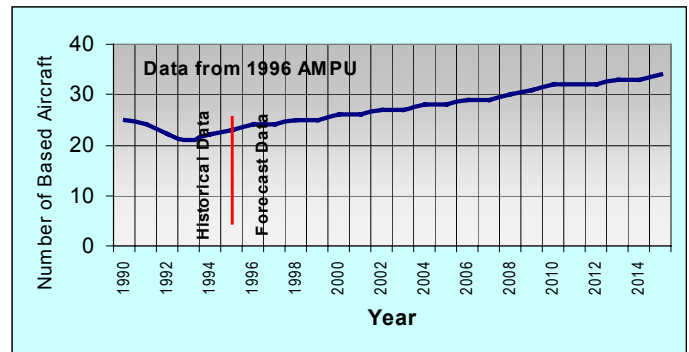
Airport Location



Operations



Based Aircraft



Source: 1996 AMPU

AIRPORT ECONOMIC, FINANCIAL AND MANAGEMENT INFORMATION

MOUNT WASHINGTON REGIONAL AIRPORT

Airport Ownership and Management

The Mount Washington Regional Airport is owned by the Town of Whitefield and is operated and managed by the Mount Washington Regional Airport Commission. The Commission is comprised of ten surrounding towns in a cooperative financial agreement to support the airport. Each member town in the Commission supports the airport by voluntarily providing revenue (as a line item in their annual budget) with a suggested amount of \$0.75 per town resident. As each member town's contribution to the Commission is voluntary, most member communities contribute annually. However, some communities may not contribute every year (depending on each respective town's ability to provide funds). All member communities have a selectmen type of government.

		Amount of Revenue	
		Contributed to Airport	Total 02 Budget
The ten member towns include:	Town Name		
	Whitefield	\$1,530	\$2,895,919
	Lancaster	\$2,460	\$3,201,283
	Jefferson	\$755	\$1,995,057
	Franconia	\$695	\$910,769
	Lincoln	\$955	\$3,240,913
	Bethlehem	\$1,650	\$1,900,000
	Littleton	\$4,385	\$5,037,457
	Twin Mountain	N/A	N/A
	Sugar Hill	\$422	\$599,000
	Easton	\$192	\$111,971
	TOTAL	\$13,044	\$19,892,369

Airport Financial Summary

	FY01	FY 02	FY03	FY04
Operating Revenue	\$9,242			
Operating Expenditures	\$4,972			
Capital Revenues	\$695,475			
Capital Expenditures	N/A			

Services Municipality Provides to Airport: The Town of Whitefield contributes in-kind services to the airport such as snow removal and road repair equipment and labor.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Commission Relative to Airport Maintenance

Airport maintenance

Fixed Base Operator (FBO)

FBO facilities leased to proprietor

Airport Contact Information

Dave Willis (Airport Commission Chair)
Florian Coriveau (Airport Manager)

Figure 2-15 - Plymouth

Airport Name: PLYMOUTH
FAA ID: 1P1
ARC: A-1
Ownership: Public
Economic Region: North Country
County: Grafton
Airport Role: General Aviation
Airspace: Class G
Zoning: Residential – Airport airspace overlay
Fuel: 100LL
Weather Information: None
Fixed Based Operator: No
Navigation Aids: None
Airport Latitude: 43.46.452.57 N
Airport Longitude: 71.45.132.86 W

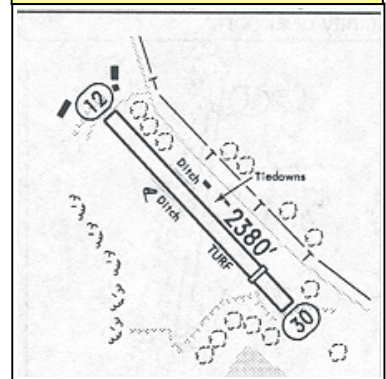
Runway Information:

Orientation: 12-30
Length: 2,380'
Width: 90'
Instrument Approaches: None
Lighting: None
Surface: Turf
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 4,000

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 16

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

PLYMOUTH MUNICIPAL AIRPORT

Airport Ownership and Management

The Town of Plymouth owns and operates the airport with a part-time airport manager.
Municipal Summary

Government Type:	Selectmen
Town Meeting:	March
Municipal Budget (02):	\$4,800,000
Fiscal Year:	July to June
Budget Prepared:	September and October
Budget Adopted/Vote:	March
Population (00):	5,892

Services Municipality Provides to Airport: Town contracts grass cutting with local grounds keeping service

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,993			
Operating Expenses	\$2,376			
Capital Revenues	N/A			
Capital Expenditures	\$6,000			

Revenue is generated through land leases, hangar storage and tie-downs. The airport manager indicates that approximately 80% of expenses are covered through these sources. The Town of Plymouth provided \$3,374 to the airport in FY03.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grants have been used for facility grounds maintenance (grass and snow clearing), operations (staff salaries), and purchasing capital equipment.

- Equipment purchase and repair
- Grounds and building maintenance
- Utilities (electricity)
- Staff salary

Fixed Base Operator (FBO)

No FBO. Fuel is available.

Airport Contact Information

Norman Smith (Airport Manager)

Figure 2-16 – Twin Mountain

Airport Name: TWIN MOUNTAIN
FAA ID: 8B2
ARC: B-I
Ownership: Private
Economic Region: North Country
County: Coos
Airport Role: General Aviation
Airspace: Class G
Zoning: Residential/ Business
Fuel: 100LL
Weather Information: None
Fixed Based Operator: No
Navigation Aids: VOR/DME
Airport Latitude: 44.15.502.29 N
Airport Longitude: 71.32.512.92 W

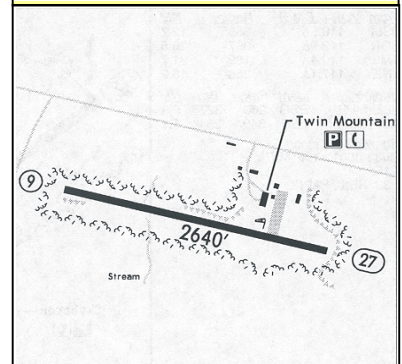
Runway Information:

Orientation: 09-27
Length: 2,640'
Width: 60'
Instrument Approaches: None
Lighting: LIRL
Surface: Asphalt
Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 1,000

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 3

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

TWIN MOUNTAIN AIRPORT

Airport Ownership and Management

The Twin Mountain Airport is a private airport facility with a part-time airport manager.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$0			
Operating Expenses	\$100			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Owner Relative to Airport Maintenance

Funds have been allocated for a future maintenance project.

Fixed Base Operator (FBO)

No FBO. Fuel is available.

Airport Contact Information

Evan Karpf (Airport Owner)
Robert Weigand (Airport Manager)

Rockingham Region

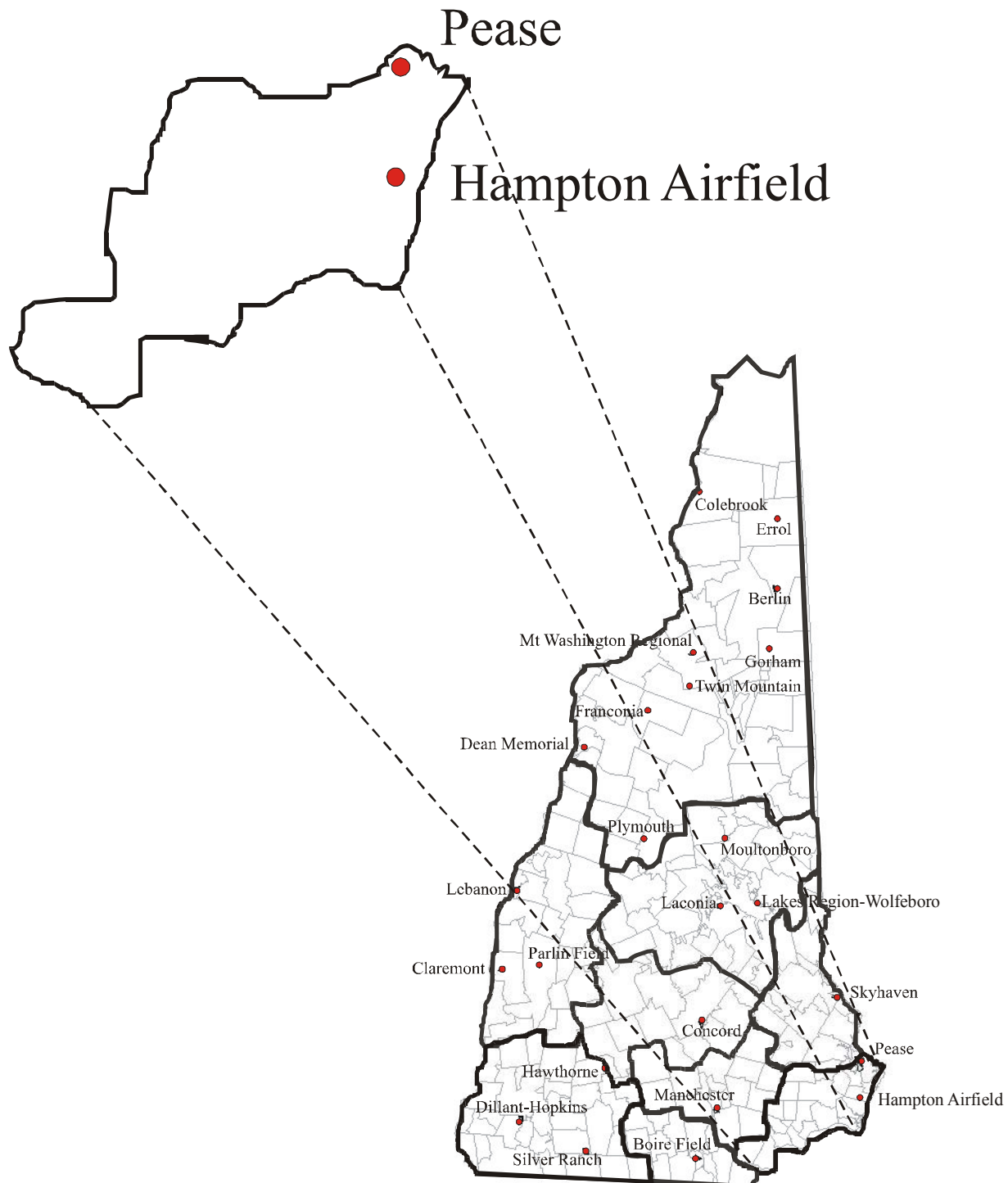


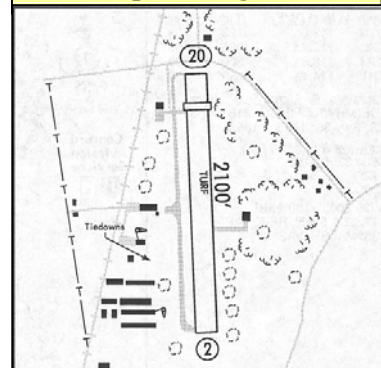
Figure 2-17 – Hampton Airfield

Airport Name:	HAMPTON AIRFIELD
FAA ID:	7B3
ARC:	B-I
Ownership:	Private
Economic Region:	Rockingham
County:	Rockingham
Airport Role:	General Aviation
Airspace:	Class G
Zoning:	Industrial/ Business/ Commercial
Fuel:	100LL; 80
Weather Information:	None
Fixed Based Operator:	Yes
Navigation Aids:	None
Airport Latitude:	42.57.453.22 N
Airport Longitude:	70.49.431.91 W
Runway Information:	
Orientation:	2-20
Length:	2,100'
Width:	170'
Instrument Approaches:	None
Lighting:	Nonstandard
Surface:	Turf
Condition:	Fair

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 37,500

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 70

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

HAMPTON AIRFIELD

Airport Ownership and Management

The Hampton Airfield is a privately owned facility managed by Hampton Airfield, Inc.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,628			
Operating Expenses	\$850			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Grounds maintenance (plowing and grass seeding)
- Capital improvements (road paving)
- Security
- Consultants (soil survey)

Fixed Base Operator (FBO)

FBO on site. FBO contractual arrangements were not available.

Airport Contact Information

Mike Hart

Figure 2-18 – Pease International Tradeport

Airport Name: PEASE INTERNATIONAL TRADEPORT

FAA ID: PSM

ARC: D-IV

Ownership: Public

Economic Region: Rockingham

County: Rockingham

Airport Role: Commercial Service

Airspace: Class D

Zoning: Airport – specific to Tradeport only

Fuel: 100LL; Jet

Weather Information: None

Fixed Based Operator: Yes

Navigation Aids: ILS/VORTAC/GPS

Airport Latitude: 43.04.406.52 N

Airport Longitude: 70.49.237.84 W

Runway Information:

Orientation: 16-34

Length: 11,321'

Width: 150'

Instrument

Approaches: ILS-16; ILS-34;
VOR/TACAN/GPS-34; VOR-16; GPS-16

Lighting: HIRL 16-34; MALSR/PAPI 16;
MALSR/PAPI 34

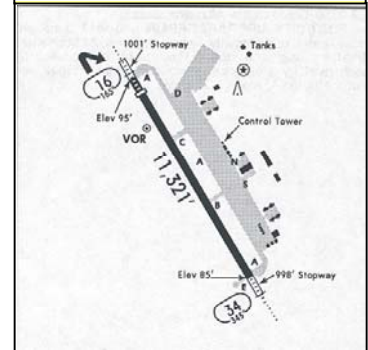
Surface: Asphalt-Concrete Grooved

Condition: Good

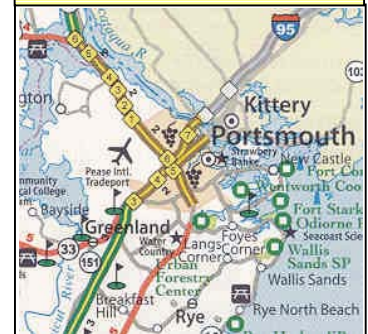
Airport Picture



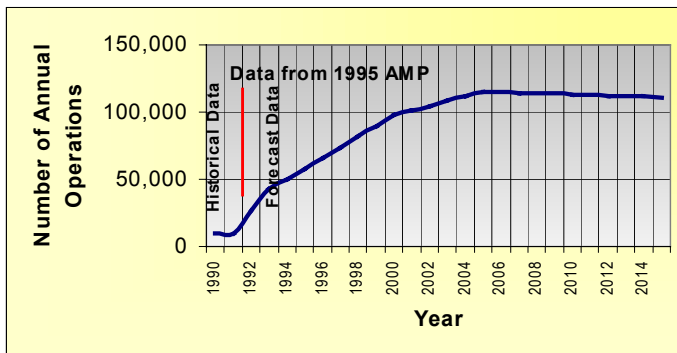
Airport Diagram



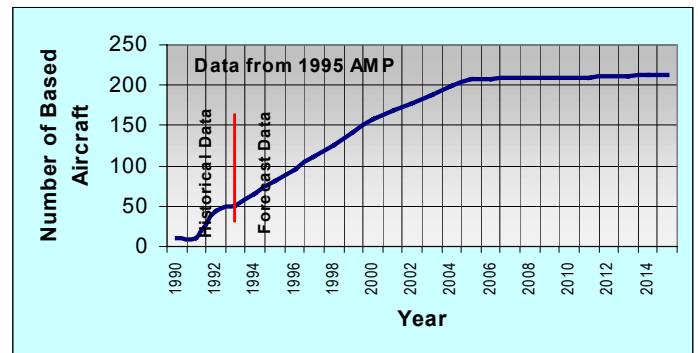
Airport Location



Operations



Based Aircraft



Source: 1995 AMPU

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

PEASE INTERNATIONAL TRADEPORT

Airport Ownership and Management

The Pease International Tradeport, a former U.S. Air Force base, opened for civilian use in 1991 and is owned and operated by the Pease Development Corporation – a public corporation created under New Hampshire RSA 12-G. The 900 acre airport is part of the 4000 acre Pease International Tradeport property.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$1,808,426			
Operating Expenses	\$3,115,345			
Capital Revenues	\$6,056,461			
Capital Expenditures	\$345,712			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Snow removal

Fixed Base Operator (FBO)

At least three FBOs on site with several other aircraft repair and aviation related services. FBO contractual arrangements were not available.

Airport Contact Information

Kim William Hopper (Acting Airport Manager)
Katie Hood (Finance Director)
Sue McDonald (Public Relations Director)

South Region



Figure 2-19 – Manchester

Airport Name: MANCHESTER
FAA ID: MHT
ARC: C-IV
Ownership: Public
Economic Region: South
County: Hillsborough
Airport Role: Commercial Service
Airspace: Class C
Zoning: Airport
Fuel: 100LL; Jet
Weather Information: ASOS/LAWRS
Fixed Based Operator: Yes
Navigation Aids: VOR/DME/ILS/NDB/GPS
Airport Latitude: 42.56.042.59 N
Airport Longitude: 71.26.134.01 W

Runway Information:

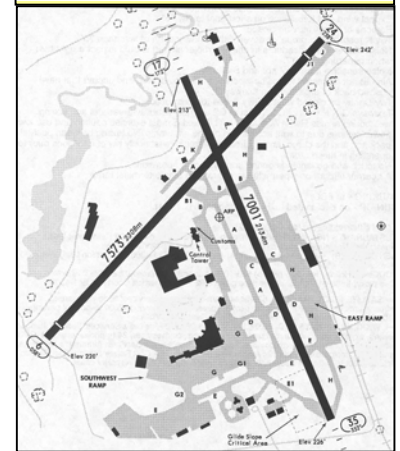
Orientation:	6-24	17-35
Length:	7,573'	7,001'
Width:	150'	150'

Instrument Approaches:	ILS-6; GPS24	ILS-17; ILS-35; VOR/DME/GPS-17; VOR-35;NDB/GPS-35;
Lighting:	HIRL 6-24; REIL 24; PAPI-24	HIRL 17-35; MALSR/VASI 17; MALSR/PAPI 35
Surface:	ASPHALT-GROOVED	Asphalt-Grooved
Condition:	Good	Good

Airport Picture



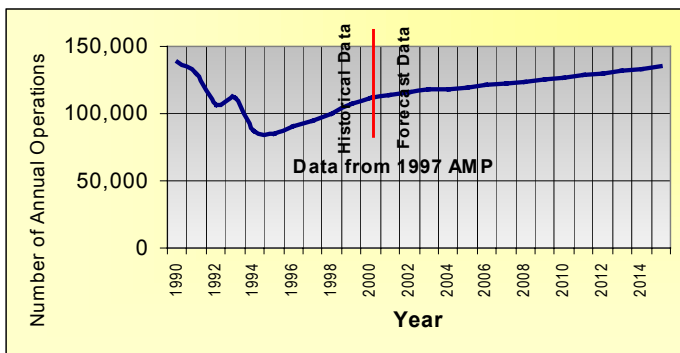
Airport Diagram



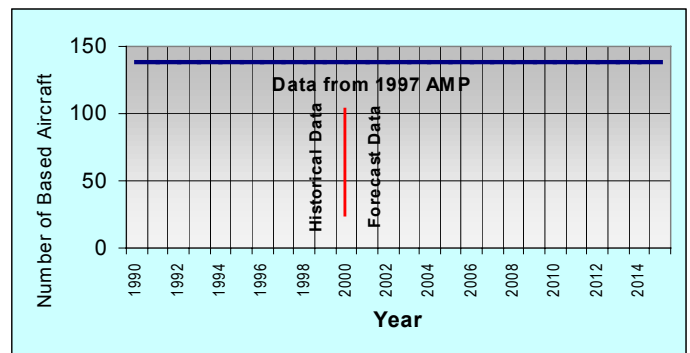
Airport Location



Operations



Based Aircraft



Source: 1997 AMPU

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

MANCHESTER AIRPORT

Airport Ownership and Management

The Manchester Airport is northern New England's largest and busiest airport and is owned and operated by the City of Manchester. The facility is one of three commercial airports in the state (Pease Tradeport and Lebanon Airport) with over 200 passenger and cargo flights each day. Manchester Airport offers air travelers non-stop and direct service to leading U.S. and Canadian cities as well as a fixed base operator, tie-downs, hangars and services for general aviation aircraft. The airport is a department of the City of Manchester government and is advised by the Manchester Airport Advisory Committee.

Municipal Summary

Government Type:	Mayor and (14) Aldermen
Municipal Budget (02):	\$92,271,444
Fiscal Year:	July to June
Budget Prepared:	December - January
Budget Adopted/Vote:	Late Spring
Population (00):	107,006

Services Municipality Provides to Airport: Airport is considered a department of the City of Manchester, however, all airport related revenues remain within the airport's accounts. The airport financially reimburses any services performed at the airport by other city departments.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$29,166,572			
Operating Expenses	\$19,371,326			
Capital Revenues	\$40,181,443			
Capital Expenditures	\$15,163,267			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Purchase aviation de-icing fluid

Fixed Base Operator (FBO)

Full service FBO. FBO leases land from the airport and forwards \$0.05/gallon of general aviation and jet fuel (not commercial airline fuel) and \$0.025/gallon of cargo fuel sold (fuel flow fee) as well as an undisclosed percentage of gross sales.

Airport Contact Information

Kevin Dillon (Airport Director)
Michael Farren (Assistant Airport Director Finance and Administration)

Southwest Region

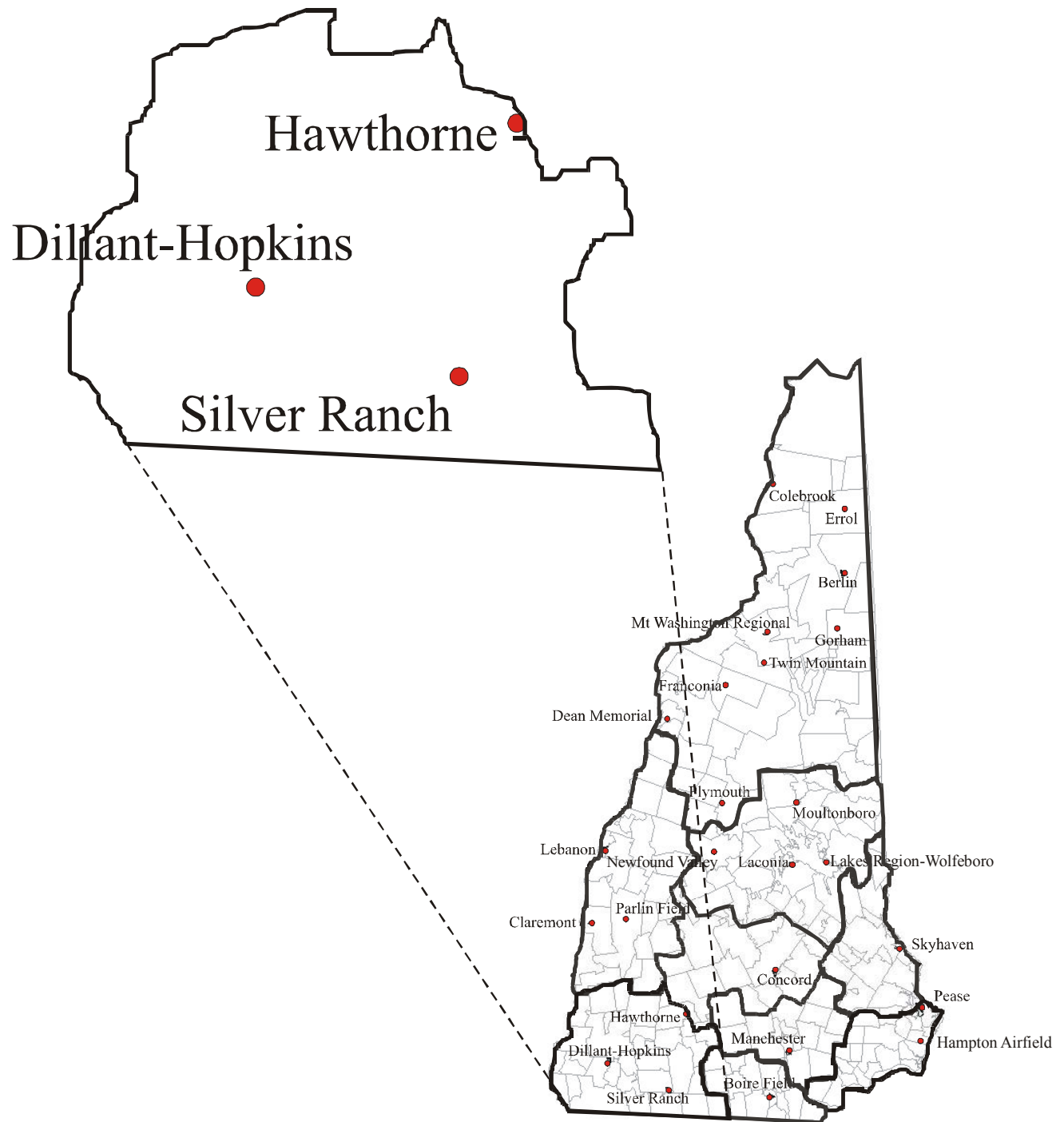


Figure 2-20 – Hawthorne - Hillsboro

Airport Name: HAWTHORNE - HILLSBORO

FAA ID: 8B1

ARC: B-I

Ownership: Private

Economic Region: Southwest

County: Hillsborough

Airport Role: General Aviation

Airspace: Class G

Zoning: Commercial

Fuel: 100LL

Weather Information: None

Fixed Based Operator: No

Navigation Aids: VORTAC

Airport Latitude: 43.04.002.89 N

Airport Longitude: 71.53.582.86 W

Runway Information:

Orientation: 2-20

Length: 3,260'

Width: 75'

Instrument

Approaches: None

Lighting: MIRL

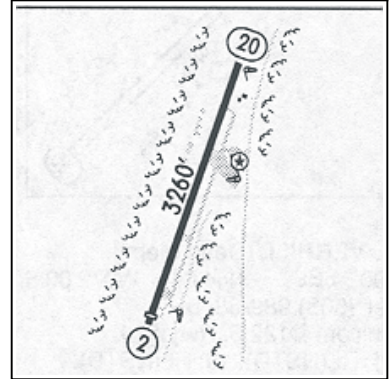
Surface: Asphalt

Condition: Good

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 1,500

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 13

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

HAWTHORNE-FEATHER AIRPARK

Airport Ownership and Management

Hawthorne-Feather Airpark is a privately owned facility.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	N/A			
Operating Expenses	N/A			
Capital Revenues	N/A			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

N/A

Fixed Base Operator (FBO)

No FBO. Fuel is available.

Airport Contact Information

James Rymes (Airport Manager)

Figure 2-21 – Silver Ranch - Jaffery

Airport Name: SILVER RANCH - JAFFREY

FAA ID: AFN

ARC: B-I

Ownership: Private

Economic Region: Southwest

County: Cheshire

Airport Role: General Aviation

Airspace: Class G

Zoning: Residential

Fuel: 100LL

Weather Information: ASOS

Fixed Based Operator: No

Navigation Aids: VORTAC

Airport Latitude: 42.48.184.83 N

Airport Longitude: 72.00.108.79 W

Runway Information:

Orientation: 16-34

Length: 2,982'

Width: 134'

Instrument

Approaches: VOR/GPS-A

Lighting: LIRL

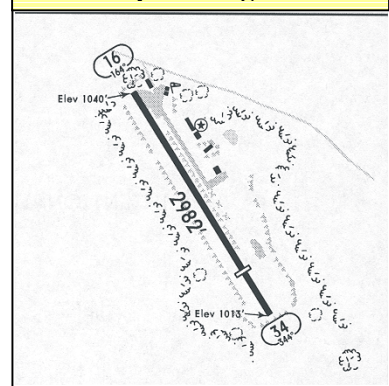
Surface: Asphalt

Condition: Fair

Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 10,648

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 41

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

SILVER RANCH (JAFFREY) AIRPORT

Airport Ownership and Management

The Silver Ranch (Jaffrey) Airport is a privately owned facility with a full-time manager.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$5,722			
Operating Expenses	\$7,320			
Capital Revenues	N/A			
Capital Expenditures	\$5,276			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grant funds provided are not enough to sufficiently maintain the facility.

- Utilities (electricity)
- Grounds maintenance (snow plowing)
- Capital improvements (paving)

Fixed Base Operator (FBO)

No FBO. Aviation fuel is available

Airport Contact Information

Harvey and Lee Sawyer (Airport Owners and Managers)

Figure 2-22 – Dillant-Hopkins - Keene

Airport Name: DILLANT-HOPKINS - KEENE

FAA ID: EEN

ARC: C-II

Ownership: Public

Economic Region: Southwest

County: Cheshire

Airport Role: General Aviation

Airspace: Class G

Zoning: Airport

Fuel: 100LL; Jet A

Weather Information: AWOS

Fixed Based Operator: Yes

Navigation Aids: VORTAC/ILS

Airport Latitude: 42.53.542.38 N

Airport Longitude: 72.16.148.12 W

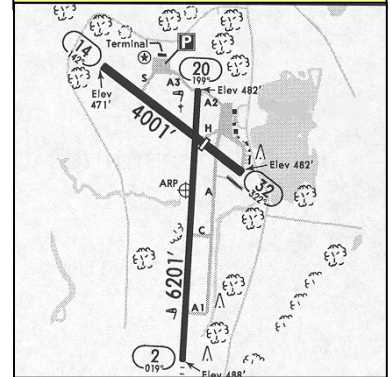
Runway Information:

Orientation:	14-32	2-20
Length:	4,001'	6,201'
Width:	150'	100'
Instrument Approaches:	None	ILS 2; VOR 2; GPS 2
Lighting:	MIRL 14-32	HIRL 2-20; MALSR/PAPI 2; PAPI 20
Surface:	Asphalt	Asphalt
Condition:	Fair	Good

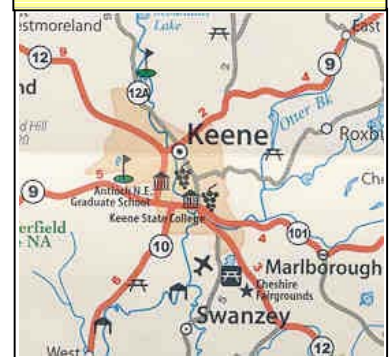
Airport Picture



Airport Diagram

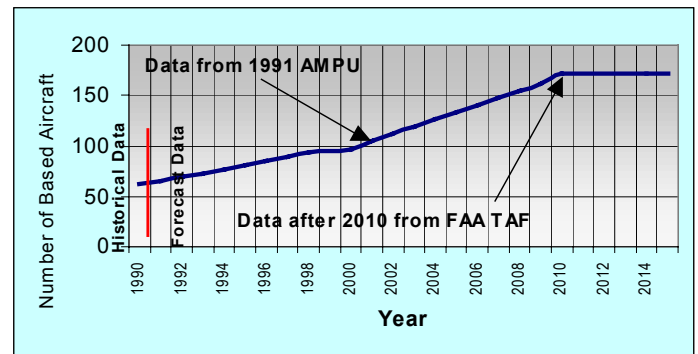
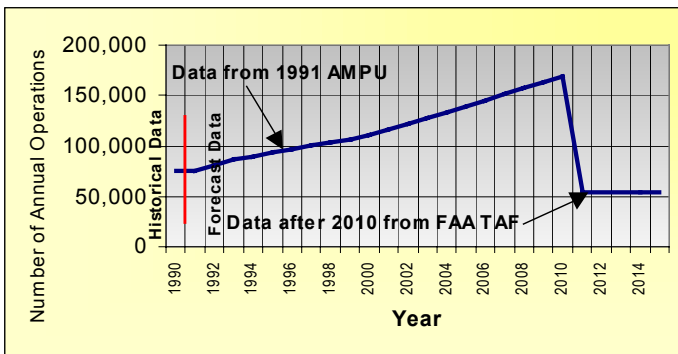


Airport Location



Operations

Based Aircraft



Source: 1991 AMPU, FAA Terminal Area Forecasts

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

DILLANT-HOPKINS (KEENE) AIRPORT

Airport Ownership and Management

Dillant-Hopkins Airport in Keene is owned and operated by the City of Keene. The facility has a full-time manager (city employee) who oversees maintenance, administrative and operation of the airport. With its 6,200 foot runway, the facility has the ability to handle all types of aircraft from single engine personal aircraft to large commercial jet airliners.

Municipal Summary

Government Type:	Mayor and Council and Manager
Municipal Budget (02):	\$30,978,288
Fiscal Year:	N/A
Budget Prepared:	N/A
Budget Adopted/Vote:	N/A
Population (00):	22,563

Services Municipality Provides to Airport: Airport is considered a department within the City of Keene administration

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$240,911			
Operating Expenses	\$304,689			
Capital Revenues	\$462,129			
Capital Expenditures	\$100,712			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- In FY 2001, the airport had the following expenditures - \$147,933 (personnel), \$156,756 (operations), and \$100,712 (debt service for T-hangar and equipment facilities and runway relocation)

Fixed Base Operator (FBO)

Full service FBO.

Airport Contact Information

Steve Thornton (Assitant Finance Director)
Ed Mattern (Airport Director)

Strafford Region



Figure 2-23 – Rochester – Skyhaven

Airport Name: SKYHAVEN
FAA ID: DAW
ARC: B-II
Ownership: Public
Economic Region: Strafford
County: Strafford
Airport Role: General Aviation
Airspace: Class G
Zoning: Agricultural/ Airport overlay
Fuel: 100LL; Jet A
Weather Information: ASOS
Fixed Based Operator: Yes
Navigation Aids: VORTAC/NDB
Airport Latitude: 43.17.026.23 N
Airport Longitude: 70.55.453.17 W

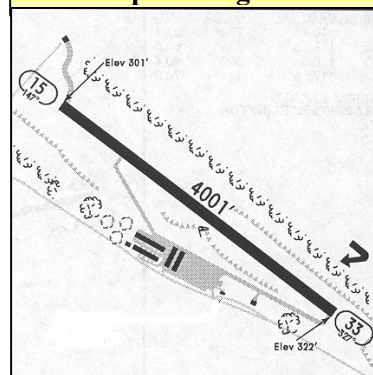
Runway Information:

Orientation: 15-33
Length: 4,001'
Width: 100'
Instrument Approaches: VOR/DME/GPS-A; NDB/GPS-B;
NDB-33; GPS-33
Lighting: MIRL 15-33; REIL/PAPI 33
Surface: Asphalt
Condition: Good

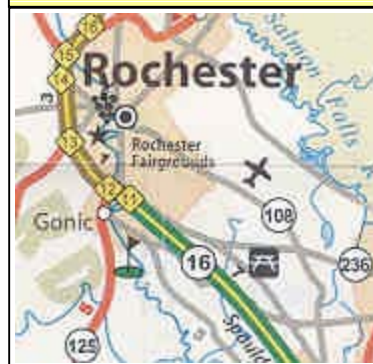
Airport Picture



Airport Diagram



Airport Location



Operations

Estimated Annual Operations = 18,592

Source: FAA Form 5010 Master Record

Based Aircraft

Estimated Based Aircraft = 47

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

SKYHAVEN AIRPORT

Airport Ownership and Management

As the only general aviation facility owned and operated by the State of New Hampshire, Department of Transportation, Division of Aeronautics. Skyhaven Airport in Rochester, is home to over 80 based aircraft and is the only airport in Strafford County.

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$168,730			
Operating Expenses	\$166,298			
Capital Revenues	\$826,659			
Capital Expenditures	N/A			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

- Capital improvements (hangar upgrades)
- Grounds, building and fuel system maintenance
- FBO/management
- Utilities (telephone, water, heat, garbage and electric)
- Debt service

Fixed Base Operator (FBO)

Full service FBO.

Airport Contact Information

Ronald W. Wanner (NH DOT)
Glen Horne (Ossipee Valley Aviation)

Upper Valley Region

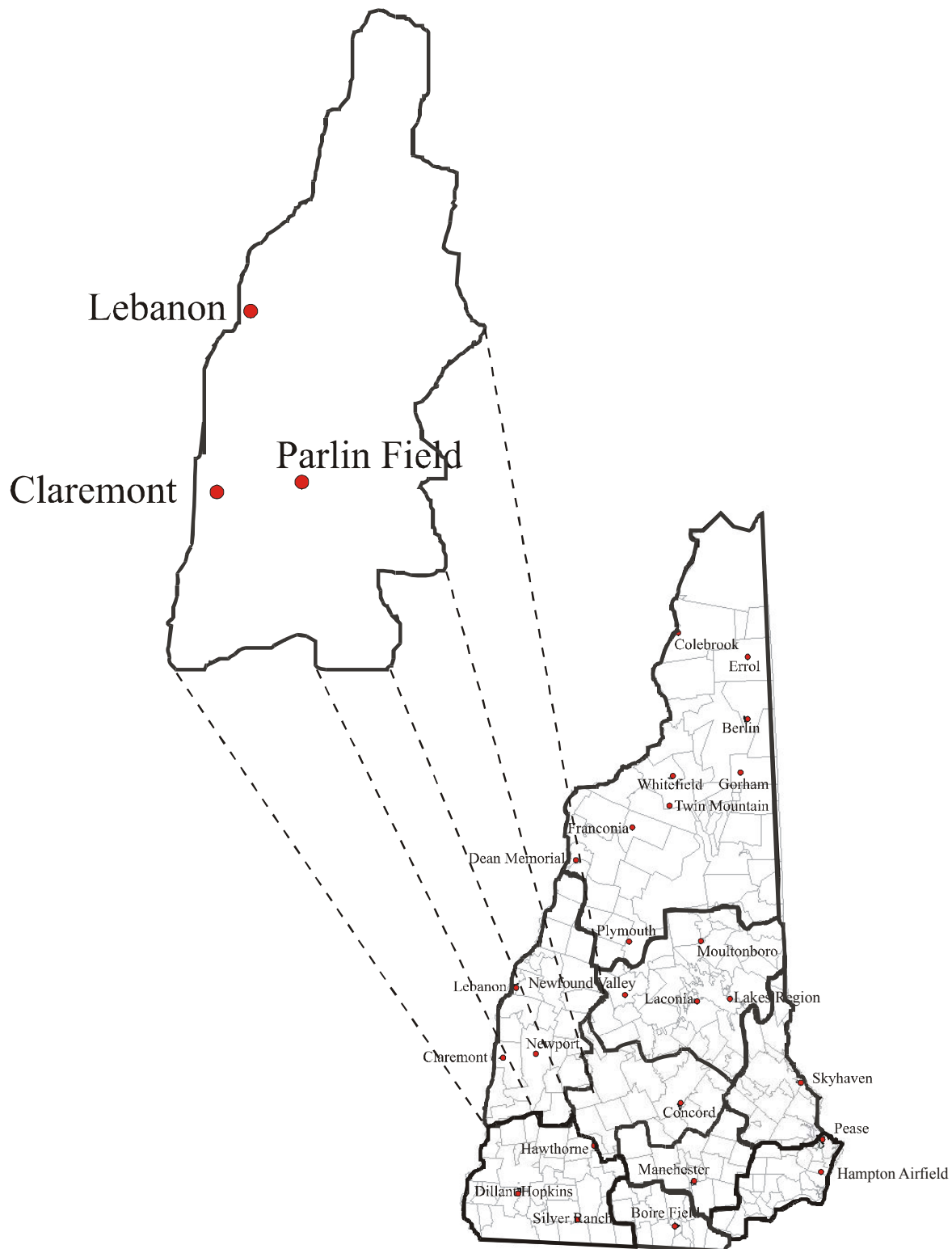


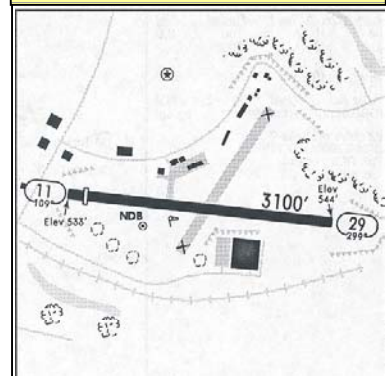
Figure 2-24 – Claremont

Airport Name:	CLAREMONT
FAA ID:	CNH
ARC:	B-I
Ownership:	Public
Economic Region:	Upper Valley
County:	Sullivan
Airport Role:	General Aviation
Airspace:	Class G
Zoning:	Airport Approach District
Fuel:	100LL
Weather Information:	None
Fixed Based Operator:	Part-Time
Navigation Aids:	VOR/DME; NDB
Airport Latitude:	43.22.135.55 N
Airport Longitude:	72.22.072.36 W
Runway Information:	
Orientation:	11-29
Length:	3,100'
Width:	100'
Instrument Approaches:	NDB-A; GPS-29
Lighting:	MIRL 11-29; REIL /VASI 29
Surface:	Asphalt
Condition:	Good

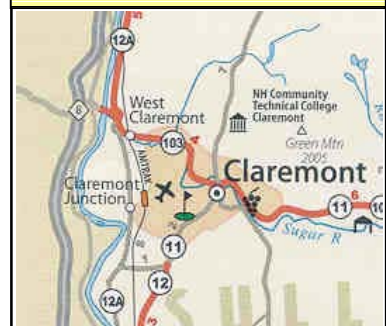
Airport Picture



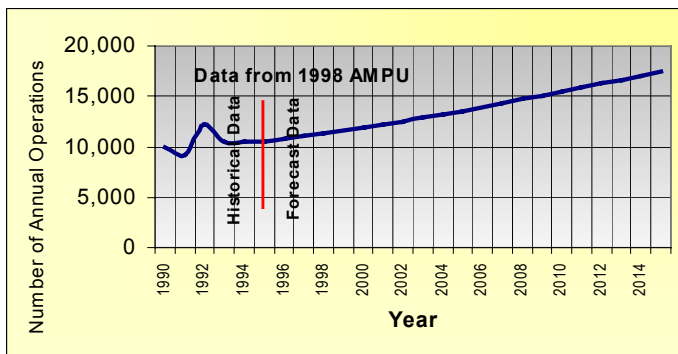
Airport Diagram



Airport Location

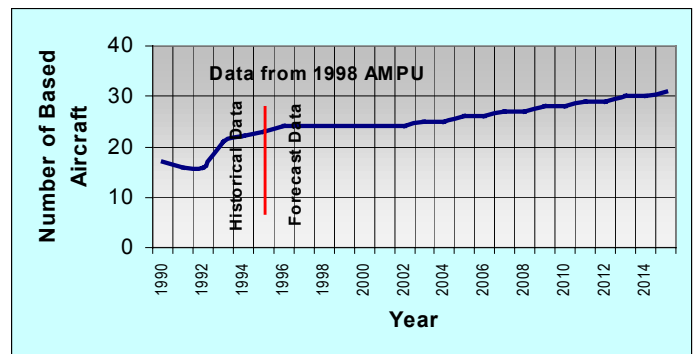


Operations



Source: 1998 AMPU

Based Aircraft



AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

CLAREMONT AIRPORT

Airport Ownership and Management

The Claremont Airport is owned and operated by the City of Claremont. The Claremont Airport Advisory Board serves in an advisory function to the City Council relative to airport operations. Due to the limited availability of funds, the airport relies on a part-time airport manager, who is also the City Fire Chief, and volunteers to assist with airport maintenance.

Municipal Summary

Government Type:	Manager and Council
Municipal Budget (02):	\$10,266,000
Fiscal Year:	January to December
Budget Prepared:	October through February
Budget Vote:	February
Population (00):	13,151

Services Municipality Provides to Airport: Grounds Maintenance (snow clearing and grass cutting)

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$452			
Operating Expenses	\$43,728			
Capital Revenues	N/A			
Capital Expenditures	N/A			

According to a municipal representative, the Town of Claremont funded the airport in the amount of \$48,868 in 2003 and has been supporting the airport financially for many years. The amount of funds provided to the airport has increased annually and appear to be sufficient to maintain the facility.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grants are used for grounds maintenance and the installation of hazard beacons.

- Airport operations

Fixed Base Operator (FBO)

FBO on site. FBO leases space from City and receives all hangar and tie-down revenue.

Airport Contact Information

Chief Peter Chase (Airport Manager)
Mary Walter

Figure 2-25 – Lebanon

Airport Name: LEBANON
FAA ID: LEB
ARC: C-II
Ownership: Public
Economic Region: Upper Valley
County: Grafton
Airport Role: Commercial Service
Airspace: Class D
Zoning: Light industrial
Fuel: 100LL; Jet
Weather Information: ASOS/LAWRS
Fixed Based Operator: Yes
Navigation Aids: VOR/DME/NDB/ILS
Airport Latitude: 43.37.349.40 N
Airport Longitude: 72.18.153.62 W

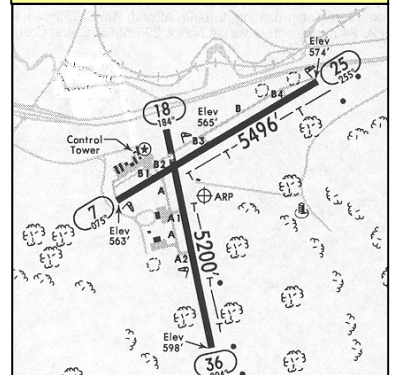
Runway Information:

Orientation:	7-25	18-36
Length:	5,496'	5,200'
Width:	100'	100'
Instrument Approaches:	VOR/DME-7; VOR-25; NDB/GPS-B; GPS-7; GPS-25	ILS-18;
Lighting:	MIRL 7-25; REIL/PAPI 7; REIL/VASI 25	HIRL 18-36; REIL 18; PAPI 36
Surface:	Asphalt	Asphalt
Condition:	Good	Good

Airport Picture



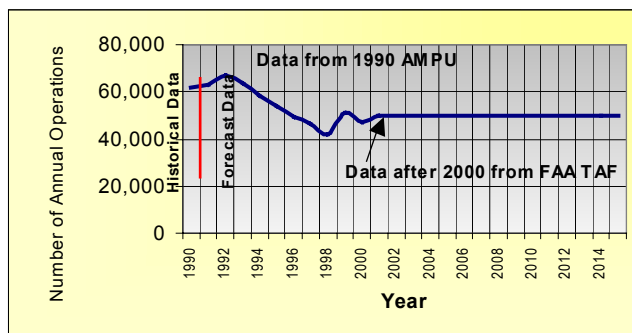
Airport Diagram



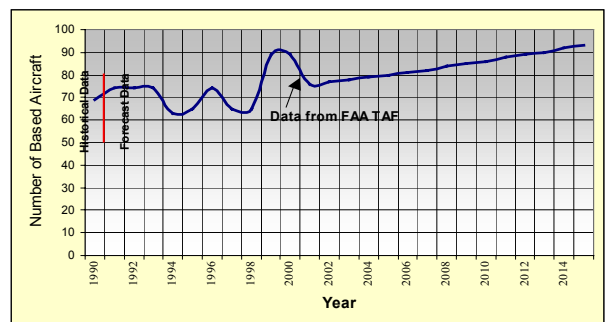
Airport Location



Operations



Based Aircraft



Source: 1990 AMPU, FAA Terminal Area Forecasts

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

LEBANON MUNICIPAL AIRPORT

Airport Ownership and Management

The Airport is owned and operated by the City of Lebanon. The previous Lebanon Airport Authority, created by the State Legislature, was discontinued in favor of the Airport being designated as a department within the City of Lebanon. There has been no interest in re-establishing the Airport Authority.

Municipal Summary

Government Type:	Manager and Council
Municipal Budget (02):	\$14,684,313
Fiscal Year:	January to December
Budget Prepared:	Late summer to fall
Budget Adopted/Vote:	December
Population (00):	12,568

Services Municipality Provides to Airport: Municipality provides all services (airport is municipal department)

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$612,813			
Operating Expenses	\$672,649			
Capital Revenues	\$474,431			
Capital Expenditures	\$73,772			

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

According to the Airport Manager's office, state grants and Airport Operating Funds comprise a small percentage of the total amount of funds needed to maintain the facility. Airport management indicated that they are maintaining the facility as best as possible based on their current and projected fiscal situation.

- Grounds maintenance (grass cutting, snow plowing, etc.)
- Runway maintenance (line painting)
- Capital improvements (paving)

Fixed Base Operator (FBO)

Full service FBO on site. The Lebanon Airport leases land to the FBO as well as receives fuel flowage fees and an undetermined percentage of gross sales from the FBO.

Airport Contact Information

Tim Edwards (Airport Manager)

Figure 2-26 – Parlin Field – Newport

Airport Name: PARLIN FIELD - NEWPORT

FAA ID: 2B3

ARC: B-I

Ownership: Public

Economic Region: Upper Valley

County: Sullivan

Airport Role: General Aviation

Airspace: Class G

Zoning: Rural/ Airport overlay zone

Fuel: 100LL

Weather Information: None

Fixed Based Operator: No

Navigation Aids: VOR/DME

Airport Latitude: 43.23.172.66 N

Airport Longitude: 72.11.213.15 W

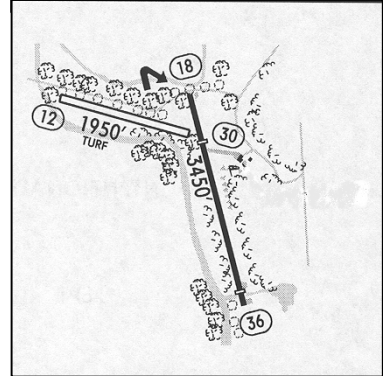
Runway Information:

Orientation:	12-30	18-36
Length:	1,950'	3,450'
Width:	80'	50'
Instrument Approaches:	None	None
Lighting:	None	None
Surface:	Turf	Asphalt
Condition:	Good	Good

Airport Picture



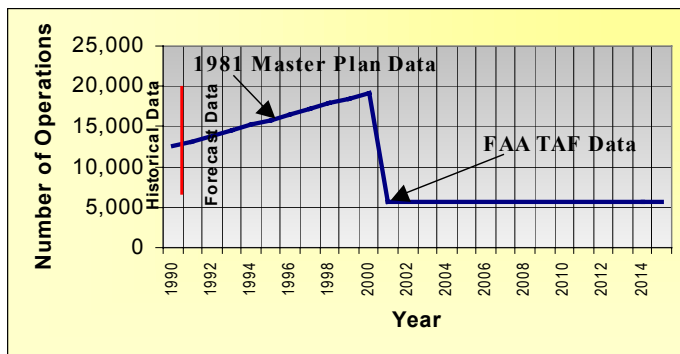
Airport Diagram



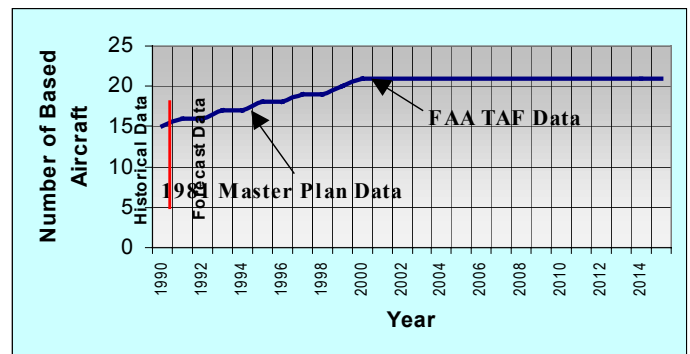
Airport Location



Operations



Based Aircraft



Source: 1981 AMPU, FAA Terminal Area Forecasts

AIRPORT ECONOMIC, FINANCIAL, AND MANAGEMENT INFORMATION

PARLIN FIELD (NEWPORT)

Airport Ownership and Management

Parlin Field is owned and operated by the Town of Newport with a part-time non-paid airport manager. The elected five member Parlin Field Airport Commission exists as an advisory mechanism to Newport selectmen.

Municipal Summary

Government Type:	Selectmen
Town Meeting:	May
Municipal Budget (02):	\$6,100,000
Fiscal Year:	July to June
Budget Prepared:	Late winter through spring
Budget Adopted/Vote:	May
Population (00):	6,269

Services Municipality Provides to Airport: Grounds maintenance (snow plowing and grass cutting)

Airport Financial Summary

	FY01	FY02	FY03	FY04
Operating Revenue	\$29,560			
Operating Expenses	\$23,487			
Capital Revenues	\$6,073			
Capital Expenditures	N/A			

The Town Manager indicated that the airport receives anywhere from \$2,000 to \$10,000 in municipal funds on an annual basis depending on project specific needs. The Town provided the airport with \$50,000 last year.

Use of State Grant to Airport Sponsors/Airport Operating Funds and View of Sponsor Relative to Airport Maintenance

State grants and airport operating funds have helped fund project specific tasks such as clearing thresholds and property acquisition as well as airport maintenance. The Town Manager indicated that the airport is well maintained given their limited resources.

Fixed Base Operator (FBO)

No FBO. Fuel available

Airport Contact Information

Dan O'Neill (Town Manager)
Dean Stetson (Airport Manager)

2.6 AIRSPACE, AIR TRAFFIC CONTROL, AND NAVIGATIONAL AIDS (NAVAIDS)

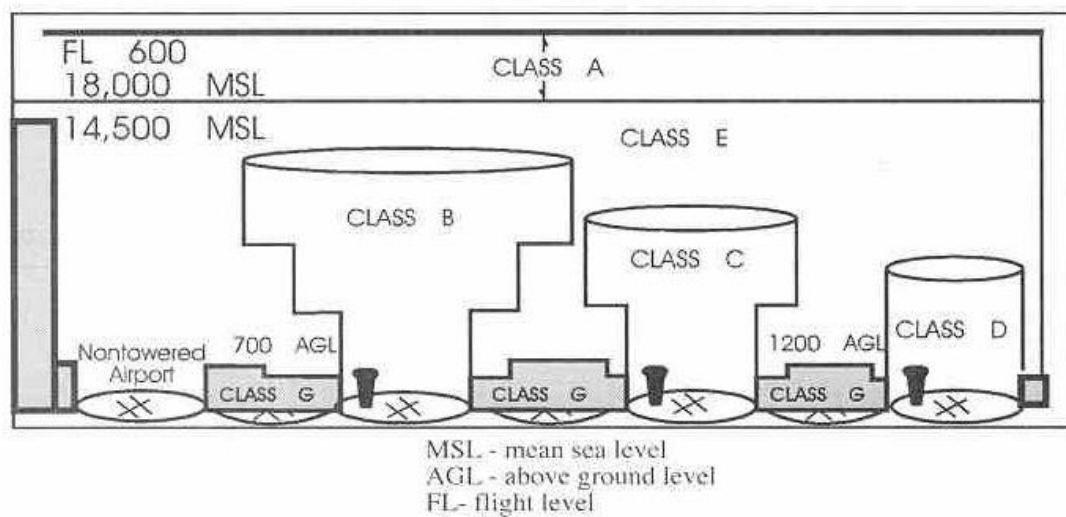
This section describes the airspace system in use in the United States and over New Hampshire, particularly as it impacts existing and future aviation activity. The purpose for this discussion is to define the different types of airspace that exist and how FAA air traffic control (ATC) manages aircraft operations. The discussion focuses on two elements of the airspace system, the airspace itself, and the navigational facilities used by aircraft operators.

2.6.1 AIRSPACE

Airspace in the United States falls under the sole jurisdiction of the Federal Aviation Administration (FAA). Both the type of airspace and the level of air traffic services have a direct impact on aircraft operations. FAA has broadly classified airspace as either controlled or uncontrolled, and each have specific functions, operating requirements and limitations, all of which affect the potential for accommodating and attracting certain types of aircraft service. Within controlled airspace, various types of air traffic control facilities, which are discussed later in this section, govern aircraft operations.

Airspace is categorized by various classes, which are designated A through G, as depicted in Figure 2-27 and described in the following section. Representative depictions of these types of airspace are shown in Appendix 2-C.

Figure 2-27 – Airspace Classification



Source: FAA, Airman's Information Manual, 2001

All of the airspace classifications shown above are found in New Hampshire, with the exception of Class B, which encompasses Boston-Logan International Airport. Manchester Airport, for example, is located within Class C airspace, while Boire Field, Pease International Tradeport, and Lebanon Airports are located within Class D airspace.

Class A Airspace

Class A is controlled airspace that extends from 18,000' Mean Sea Level (mean sea level -MSL) to 60,000' MSL. This airspace covers the contiguous United States and overlies waters within 12 nautical miles of the coast. The 22 Air Route Traffic Control Centers (ARTCC) around the nation controls this airspace. The Boston ARTCC controls the Class A airspace over New Hampshire, which is located in Nashua, NH. Boston

Center is responsible for airspace from the Atlantic Ocean into New York State, and from Canada to Long Island, NY. All aircraft operating within this airspace are required to have an Instrument Flight Rules (IFR) flight plan, and an ATC clearance.

Class B Airspace

Class B is controlled airspace from the ground level up to 10,000' MSL and surrounds the busiest commercial service (large hub) airports in the country. This airspace resembles an upside down wedding cake in shape, and ATC requires clearance into the airspace under both Visual Flight Rules (VFR) and IFR. The airspace is controlled by FAA Terminal Radar and Approach Control (TRACON). There is no Class B airspace in New Hampshire, the closest being Boston Logan Airport (see Appendix 2-C).

Class C Airspace

Class C airspace extends from the ground to 4,000' Above Ground Level (AGL). The Class C structure is similar to Class B incorporating an inner core extending from the ground to 4,000' AGL and having a 5 nautical mile radius. A secondary shelf extends from 1,200' AGL to 4,000' AGL within a 10 nautical mile radius. This airspace is in place at 19 airports in the contiguous United States that are designated as Class C airspace. Manchester Airport is the only Class C airspace in New Hampshire (see graphic), and Manchester terminal radar control (TRACON) controls this airspace. The TRACON also provides radar services to aircraft throughout southern and central New Hampshire, from the Silver Ranch in Jaffrey to the west, to Pease International Tradeport to the east, and to Laconia Airport to the north.



Class D Airspace



Class D controlled airspace is designated from the surface up to 2,500' above the airport elevation, and is generally a horizontal distance of 4 NM for airports with operating Air Traffic Control Towers (ATCT). Aircraft activity is controlled by the ATCT within this area, or when transiting through the airspace. Airports with Class D airspace in New Hampshire include Pease International Tradeport, Boire Field, and Lebanon (see Appendix 2-C).

Class E Airspace

Class E is also controlled airspace, however, it only becomes effective under certain weather conditions. The only airport with Class E airspace in New Hampshire is Concord Airport (see Appendix 2-C).

Class G Airspace

Class G airspace is uncontrolled airspace. This is the portion of airspace that has not been classified as A through E. Class G airspace extends from the surface to 14,500' MSL except where airspace is classified as E, or under a federal airway. Class G Airspace is not controlled or regulated by air traffic control (see Appendix 2-C). All of the remaining airports in New Hampshire not identified above lie within Class G airspace.

Special Use Airspace

Several types of special use airspace affect New Hampshire:

Warning Area – Warning area is defined airspace extending three nautical miles off the coast of the U.S., including New Hampshire, which ‘contains activity that may be hazardous to non-participating aircraft’. Warning areas are similar to Restricted Areas, but located offshore, and have been designated to alert pilots to potentially hazardous activity. ATC authorization is required prior to operating in Warning Area #103, which lies off the coast of New Hampshire.

Military Operations Area (MOA) – MOA’s are designed to alert pilots that within the defined vertical and lateral limits there may be high levels of military aircraft activity that may pose a hazard to non-participating aircraft.

There are two MOAs within the State, Yankee One and Yankee Two. The two MOA’s are used by military aircraft for low and mid-altitude flight training, and they encompass a large area of northern New Hampshire, primarily overlying the White Mountain National Forest region. Both MOAs are active from sunrise to sunset, and Yankee One extends from 9,000’ MSL up to but not including 18,000’ MSL, while Yankee Two extends from 100’ AGL up to 9,000’ MSL. Figure 2-28 depicts the two MOAs. As shown in the figure, six public-use airports are located under the two MOAs, and several other airports are close to the MOA boundary. A third MOA (Condor 1) is located in Maine, also overlies a small portion of the state, but does not significantly affect the state’s airspace.

Civilian aircraft are not prohibited or restricted from operating in the MOAs, even when the airspace is being used for military training activity. However, FAA specifically notes: “Pilots operating under VFR should exercise extreme caution while flying within a MOA when military activity is being conducted.”

In addition, FAA air traffic control does not provide separation between aircraft operating in the MOAs, in part because air traffic control cannot provide radar coverage below 7,000 - 8,000 feet over the White Mountains. As a result, pilots flying in the MOAs while they are active are responsible for seeing and avoiding other traffic, which could include high-speed, low-flying military aircraft.

Based on the surveys conducted for this study, as well as interviews with ATC personnel, when the MOAs are active, some pilots will not fly in that airspace, and therefore will not fly to the six airports located in the

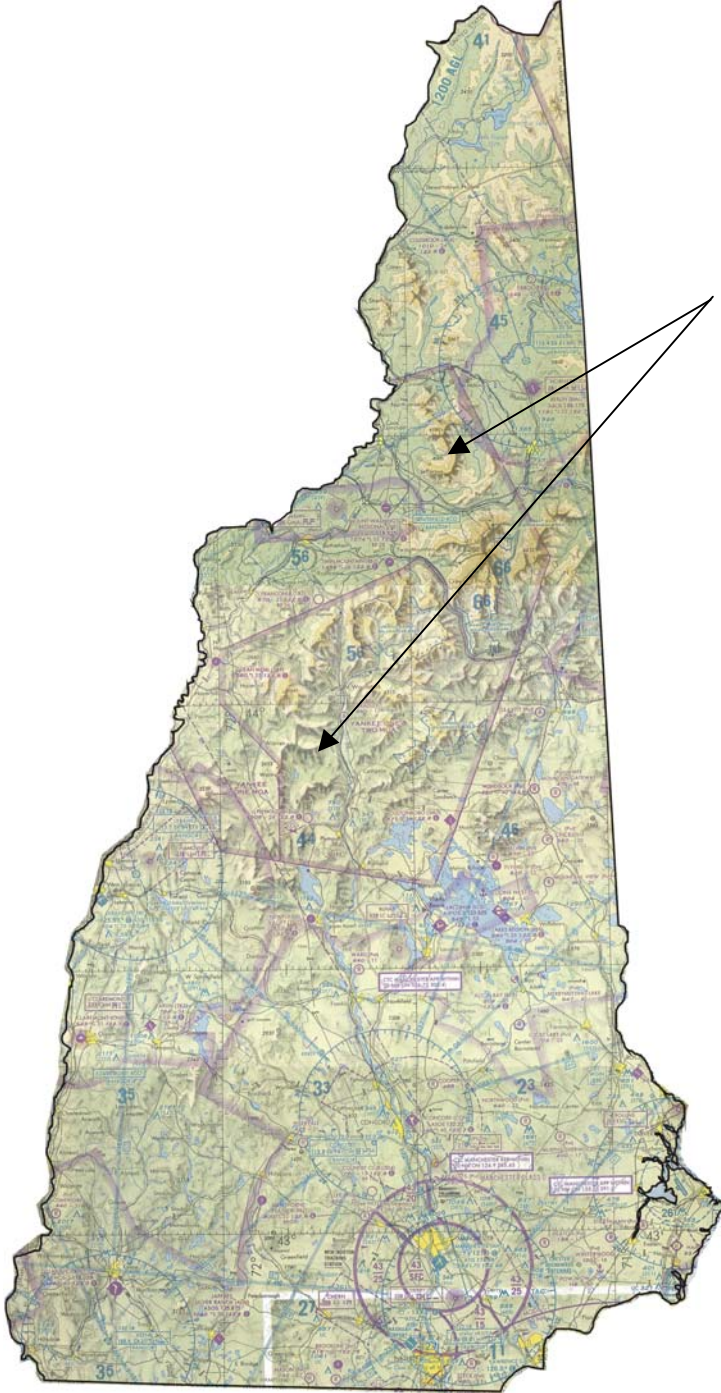
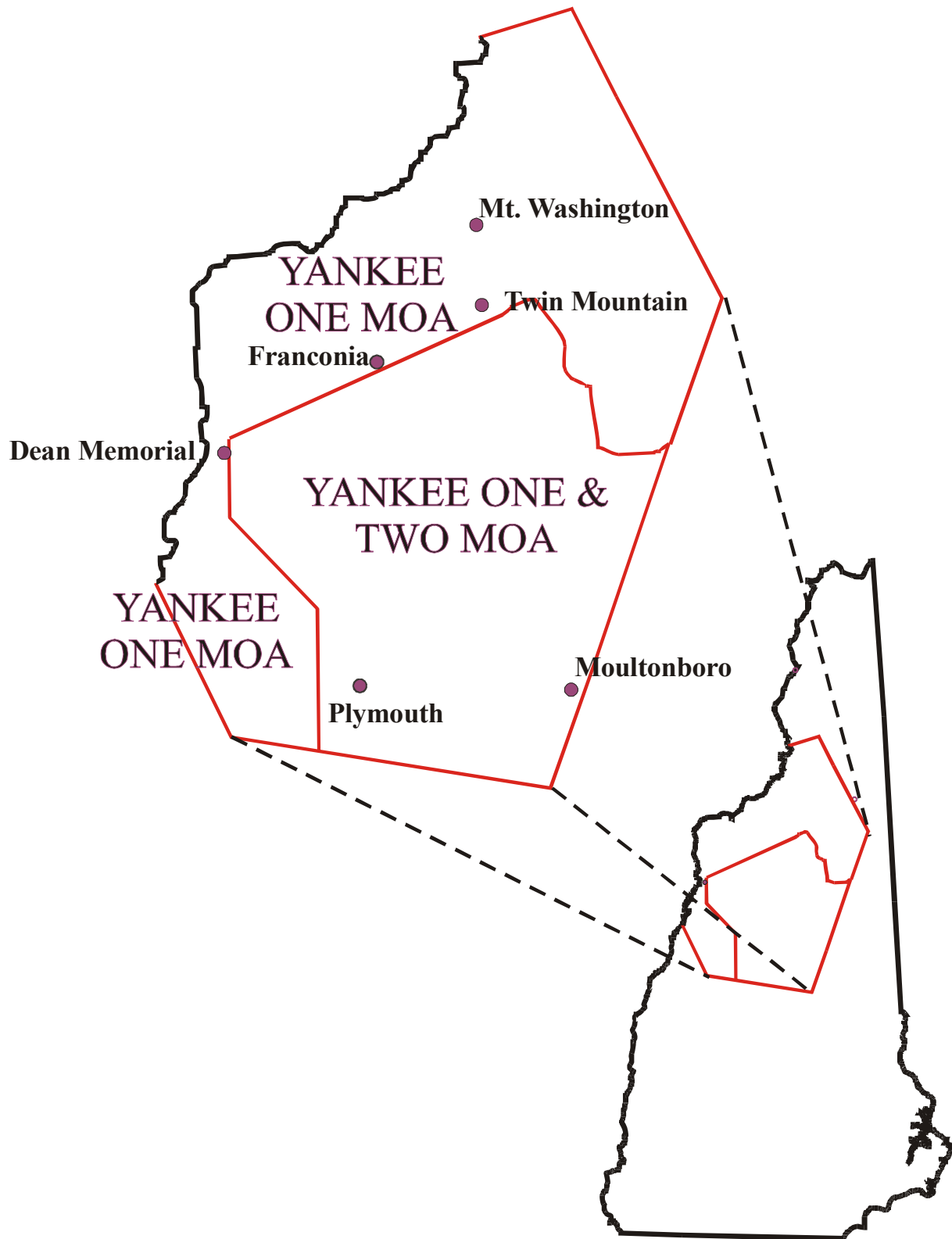


Figure 2-28 – Military Operating Areas (MOA)



MOAs, or adjacent to them. In addition, ATC will not clear aircraft operating on IFR flight plans into the MOAs when they are active. Although the actual number of flights that are not conducted to airports in the MOA, or adjacent to the MOA, because of the military training activity is not known, pilots have indicated that it is a factor in their decisions. In fact, the Aircraft Owners and Pilots Association (AOPA) has stated publicly that the creation of MOAs in other parts of the country definitely have a negative impact on general aviation activity.

2.6.2 AIR TRAFFIC CONTROL SERVICES

Air traffic control services in New Hampshire are provided by the four airport control towers (Manchester, Boire Field, Pease International Tradeport, and Lebanon), as well as by Boston Center and Manchester Approach Control (TRACON). Both Boston Center and Manchester Approach provide radar services to pilots operating under visual and instrument conditions.

Manchester TRACON – Manchester Approach Control is responsible for aircraft operating within a 60 NM mile radius from the airport and up to 10,000' above mean sea level (MSL). Above that altitude, Boston Center provides ARTCC services. In addition to Manchester Airport, the TRACON also provides full-time approach and departure radar control services to Concord, Laconia, Boire Field, Pease International Tradeport, and Skyhaven Airports.

Boston ARTCC – Boston Air Route Traffic Control Center (ARTCC), located in Nashua, controls aircraft on instrument (IFR) flight plans throughout the state that are not handled by Manchester TRACON or one of the four airport control towers. Boston Center controls both civilian and military aircraft based in the region, as well as aircraft transiting the region when flying to or from Canada and the North Atlantic. Boston Center uses a long-range radar system to track aircraft and provide radar services. Although Boston Center is responsible for controlling the two MOAs described previously, they do not have good radar coverage over the mountains due to the line-of-sight limitation of UHF radar frequencies. Radar coverage in some areas of the North Country does not extend below 7,000', and as a result, Boston Center cannot separate traffic operating in the MOAs and cannot provide radar services for aircraft operating to/from most of the airports located in or adjacent to the MOA. The lack of radar coverage is a factor for some aircraft that would otherwise operate in the White Mountain region, and also significantly decreases airspace capacity.

Another issue that affects airspace capacity is the inability to communicate directly with an air traffic controller while an airplane is on or near the ground. Aircraft communication radios operate predominantly in the VHF band, which are limited by 'line-of-sight' constraints. As a result, aircraft do not have direct radio communication with air traffic controllers while operating at a number of airports in northern New Hampshire. Installation of remote communications outlets (RCOs) can help in some areas.

Bangor Flight Service Station – Flight Service Stations (FSS) are facilities located around the country that provide various information services to pilots, including weather briefings, enroute communications, search and rescue services, assisting aircraft in emergency situations, relaying ATC clearances, conveying Notices to Airmen (NOTAMS), broadcasting aviation weather, processing VFR flight plans, and monitoring NAVAIDS.

The FSS located in Bangor serves both New Hampshire and Maine. Services are provided throughout the region using a system of Remote Communications Outlets (RCOs). Those RCO are located at Berlin, Claremont, Concord, Dillant-Hopkins, Lebanon, Manchester, and Mt. Washington Regional. Direct communication with Bangor FSS may also be accomplished through several Very High Ominrange (VOR) stations that require transmitting over a specified frequency and receiving transmissions over the VOR. The VORs that are capable of this are the Dillant-Hopkins VOR, Lebanon VOR and the Manchester VOR.

2.6.3 INSTRUMENT APPROACHES AND NAVIGATIONAL AIDS (NAVAIDS)

Instrument approaches provide the capability to operate to and from airports under Instrument Meteorological Conditions (IMC). They are required by airlines in order to provide reliable service to airports, and are also used frequently by military aircraft, general aviation pilots, and by corporate aircraft operators as well. Instrument approaches are created and published by the FAA, and they provide directional guidance to the ends of instrumented runways, which is necessary when the weather is poor. Instrument approaches use both ground-based and satellite navigational aids (NAVAIDs) to provide guidance.

There are two general types of instrument approaches to airports, precision and non-precision. Precision approaches provide both lateral and vertical guidance to specified runway ends, and as a result, provide lower approach minimums and therefore, better reliability in terms of service when the weather is poor. At present, there is not one precision approach to any of the nine airports located in the North Country. Airports in New Hampshire with published precision instrument approaches include: Manchester, Boire Field, Dillant-Hopkins, Pease International Tradeport, Concord, Laconia, and Lebanon.

By comparison, non-precision instrument approaches provide only lateral guidance to specified runway ends, and the approach minimums are higher than for precision approaches. This further limits aircraft operations during periods of poor weather conditions.

Runway ends that do not have any instrument approach capabilities have only visual approaches.

Enroute Navigation

Enroute navigation is provided by a system of both ground-based and satellite navigation aids throughout the United States. Military and civilian aircraft utilize both systems to operate to and from airports in the state. The primary ground-based NAVAID used for enroute navigation is the VOR¹, which was first installed in the late 1950s. Although VORs have operational limitations in terms of range and radio signal characteristics, the national system of VORs is linked via published airways, which are defined and depicted on aeronautical charts.

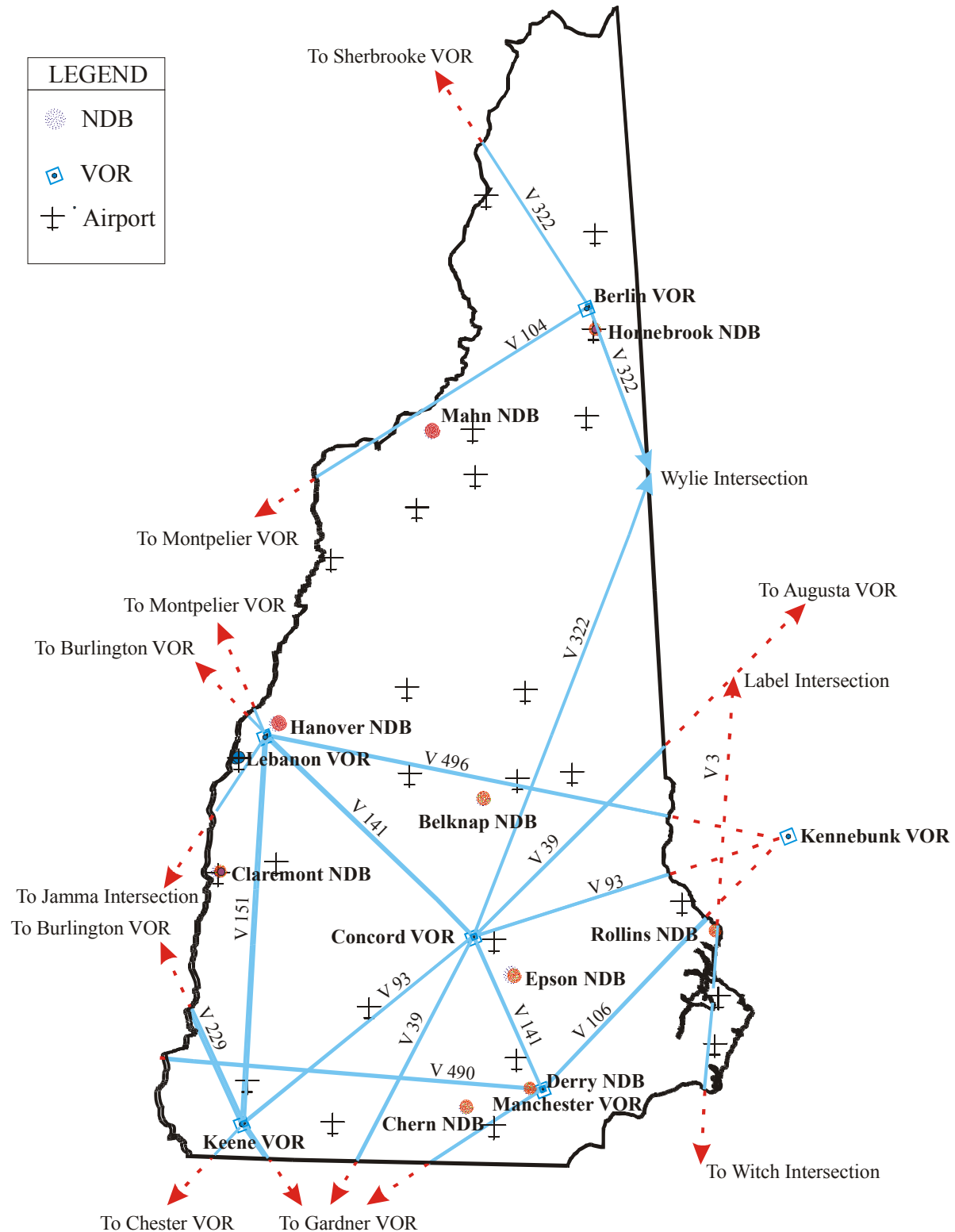
The enroute NAVAID system in New Hampshire is primarily based upon several VORs: Dillant-Hopkins, Manchester, Concord, Lebanon and Berlin, which are depicted in Figure 2-29. Several VORs located outside of, but in close proximity to New Hampshire, are also used by aircraft in the state. The figure also depicts the Non Directional Beacons (NDB) within the state that are used primarily, but not exclusively, for instrument approaches. Although lower in cost and easier to maintain, NDB transmitters have more significant operational limitations than VORs.

Precision Approaches

Precision instrument approaches are, at present, based on the use of ground-based transmitters. The typical precision instrument landing system (ILS) consists of four components: a localizer and glide slope transmitters, radio marker beacons, and an approach light system, all of which require both real estate and certain grading and line-of-sight requirements. The localizer and glide slope transmitters provide lateral and vertical information, respectively, to aircraft equipped with the proper receivers. The approach lights provide visual alignment cues to enhance sighting of the runway during the approach. The ILS provides relatively low weather minima, typically 200' above the runway and 1/2 mile (statute) visibility (or Runway Visibility Range of 2,400 feet), which greatly enhances schedule reliability for the airlines, as well as for corporate, military, and general aviation aircraft.

¹ VOR = VHF omni-radio range

Figure 2-29 – Radio Navigation Aids and Low Altitude Route Network



In New Hampshire, the seven airports that presently have one or more published ILS approaches include:

- Concord
- Pease International Tradeport
- Dillant-Hopkins
- Boire Field
- Laconia
- Manchester
- Lebanon

Category II and III ILS approaches provide even lower minimums, although there are no airports in the state currently equipped with a CAT II or CAT III approach. However, Manchester Airport is slated to have a CAT III approach by approximately 2004 when the extension and reconstruction of Runway 17-35 has been completed. That system will allow instrument approaches to 100' above the runway, and Runway Visibility Range (RVR) of 600 feet, which will further enhance airline schedule reliability during poor weather.

A new system was developed recently based on the transponder, which is located in the aircraft, which provides precision approach guidance. Known as the Transponder Landing System (TLS), it is produced by ANPC, a private company. TLS uses existing equipment in the airplane, as well as a new transmitter and processor on the ground to provide the same approach minimums as a standard instrument landing system (ILS), which is typically 200 ft. and ½ mile. The TLS system has been installed at airports around the country, although none in New Hampshire to date. However, the TLS is not eligible for FAA funding, and must be financed by other sources (such as airport or private investment).

Global Positioning System (GPS)

FAA has adopted a plan to transition both en-route and terminal navigation from ground-based transmitters to a satellite based system (GPS). FAA anticipates that the transition will be completed by 2010, although the program has been experiencing recurring delays. FAA has already published a large number of non-precision GPS instrument approaches to airports throughout New Hampshire, and GPS can also be used for en-route navigation throughout the state as well.

All of the GPS approaches published in the state so far are non-precision approaches, and FAA has published the criteria for both precision GPS approaches as well as non-precision approaches with vertical guidance. These approaches eliminate the need for ground-based transmitters, and reduce the cost of publishing approaches compared to the existing system based on the ILS, VOR, and NDB. In addition, GPS has eliminated the operational limitations of the existing NAVAIDs. As a result, airports that currently do not qualify for a conventional ILS, such as Berlin, Mt. Washington Regional, Skyhaven, Claremont, etc., may qualify for a GPS precision approach, thereby greatly increasing the utility of the airport.

FAA is currently developing future precision approaches utilizing GPS, which will eventually allow CAT I level precision approach minimums when the Wide Area Augmentation System (WAAS) is developed and certified. However, the WAAS system is still under development, and FAA expects that GPS precision approaches will be published near the 2010 time frame. Until then, the conventional ILS based on ground transmitters is the only precision approach NAVAID widely available to airports.

Non-Precision Approaches

Non-precision approaches provide only lateral guidance and typically have minima greater than a 250' ceiling. Non-precision approaches use both ground based and satellite NAVAIDS to provide the instrument approach and one mile visibility minima. These approaches are typically aligned with a specific runway end, however, by flying a modified procedure called circling approach, pilots may land on another runway and if weather conditions are more favorable circling approaches usually have the highest minima of all non-precision approaches.

Ground based NAVAIDS for a non-precision approach does not have to be located on the airport as with an ILS. In fact, many of the NAVAIDS used for a non-precision approach are located a distance away from an airport. The ground based NAVAIDS used for non-precision approaches include the localizer (one part of an ILS), the Very High Frequency Omni-directional Range (VOR) radio, and the Non-Direction Beacon (NDB).

As noted in the previous section, another NAVAID that is providing non-precision approaches is the GPS system. The GPS system's current accuracy has allowed approaches meeting the non-precision requirements. Initial GPS approaches were overlays to current non-precision approaches. However, in recent years, the GPS signal has been improved and many airports now have stand-alone GPS approaches.

Airports with published non-precision approaches are listed below. Of the nine airports in the North Country, only two have non-precision instrument approaches: Berlin and Mt. Washington Regional.

Table 2-7 - Published Non-Precision Instrument Approaches					
Airport	Localizer	VOR	NDB	GPS	Circling
Berlin		X	X	X	X
Claremont			X	X	X
Concord		X	X	X	X
Silver Ranch					X
Dillant-Hopkins		X		X	X
Laconia			X	X	X
Lebanon		X	X		X
Manchester		X	X	X	X
Boire Field			X	X	X
Pease International Tradeport		X	X	X	X
Skyhaven			X	X	X
Mt. Washington Regional	X		X		X
Source: U.S. Terminal Procedures					
VOR = Very High Frequency Omni-Directional Radio					
NDB = Non-Directional Beacon					
GPS = Global Positioning System					
Circling = an instrument approach to the airport as opposed to a specific runway					

2.7 SCHEDULED AIR SERVICE SUMMARY

This section presents a summary of scheduled air service activity in the State. It describes the historic activity and discusses the current air service provided in the State.

2.7.1 HISTORICAL AIR SERVICE

Scheduled passenger airline service in New Hampshire extends back to 1932 with Boston-Maine Airways/Central Vermont Airways providing service between Boston and Manchester, Concord, White River Junction (Upper Valley Region), Montpelier, Burlington, VT, and Montreal, Canada. Boston-Maine Airways became Northeast Airlines in 1940, which was subsequently acquired by Delta Airlines in 1972. Four airports that had scheduled passenger service since the 1940s, but presently do not, include:

- Concord
- Berlin
- Laconia
- Dillant-Hopkins

In addition to the service by Northeast, Precision Airlines was a commuter carrier originally based in Vermont and which opened a base in Manchester, NH. Precision provided scheduled passenger and cargo service throughout New Hampshire over four decades using twin-engine Beech 18s, Piper Navajos, DH-6 Twin Otters, and finally Dornier DO-228 turboprops. However, Precision terminated operations in 1990. The regional/commuter carriers that served New Hampshire previously include Bar Harbor Airlines, Pilgrim Airlines, Air New England Airlines, and Colgan Airways.

After the U.S. Congress passed the airline deregulation bill in 1978, Delta Air Lines discontinued jet service to New Hampshire by 1980, and for a period of several years in the early 1980s, there was no jet service to the state. In 1984, United Airlines was the first airline to initiate jet service at Manchester. Their initial service was to Chicago O'Hare Airport. In 1986, US Air (presently US Airways) followed United when they started jet service to Pittsburgh and Philadelphia.

2.7.2 CURRENT LEVELS OF AIR SERVICE

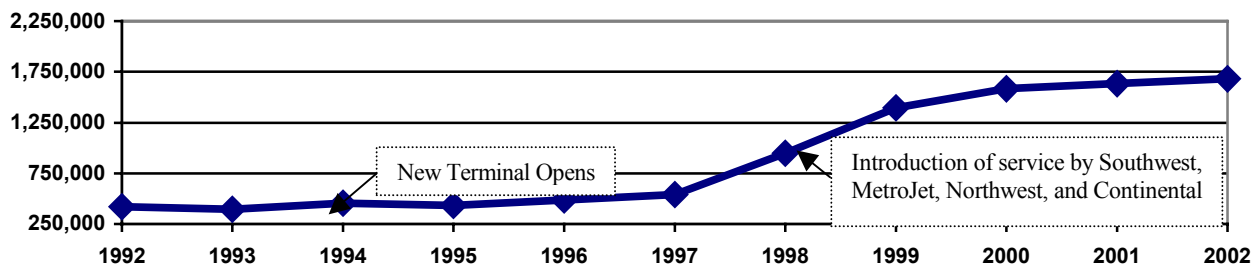
In 2002 there are three commercial service airports in New Hampshire: Manchester (MHT), Pease International Tradeport (PSM), and Lebanon (LEB). Keene's Dillant-Hopkins Airport was served by Colgan Airways through the 1990s, but is presently a general aviation airport with no scheduled service. A summary of existing scheduled service at each of the three airports is provided below. In general, a number of trends have emerged regarding scheduled airline service in New Hampshire within the last five years:

Manchester Airport

Manchester Airport (MHT) presently accommodates over 98% of the scheduled passenger enplanements in the state. As can be seen from the passenger data presented in Figure 2-30, traffic at MHT increased significantly with the advent of low-fare service by Southwest Airlines and MetroJet in 1998 (although MetroJet discontinued service in 2001). Both Southwest and MetroJet provided high-frequency low-fare jet service to a variety of destinations. Between 1995 and 2000, total passenger traffic at MHT increased by 254%, to 3,169,301 inbound and outbound passengers in 2001, with the largest increases occurring between 1998-2000, making MHT one of the fastest growing airports in the U.S. FAA classifies Manchester as a small-hub airport (based on the ratio of passenger enplanements to the national total), although it is close to being classified as a medium hub airport.

Manchester is also an origin and destination (O&D) airport, unlike other airports that serve as airline hubs such as Chicago O'Hare (United and American), Philadelphia (US Airways), Atlanta (Delta), Cincinnati (Delta), Newark (Continental), or Pittsburgh (US Airways), for example.

Figure 2-30 – Passenger Enplanements - Manchester Airport



In 1998, Northwest, Continental, Delta, and Comair initiated jet service to their respective hubs, in addition to the jet service already provided by US Airways, United, Southwest, and MetroJet. In 2001, scheduled international service started with non-stop flights to Toronto and Montreal, Canada, by Air Alliance, a regional partner of Air Canada. Figure 2-31 shows non-stop destinations from Manchester while Table 2-7 summarizes the air service provided at Manchester Airport. All of the passenger aircraft presently serving Manchester are classified as narrow-body, the largest being the B-757-200. Manchester Airport's master plan notes that the B-767, a wide-body aircraft, is the critical design aircraft.

Figure 2-31 - Non-Stop Destinations From Manchester Airport



Source: Manchester Airport

Table 2-8 - Air Service at Manchester Airport

PASSENGER AIRLINES:

US Airways/ US Airways Express
Southwest
United/United Express
Delta
Northwest

Continental/Continental Express/Connection
Comair/Delta Connection
Air Canada
Pan Am (Boston-Maine Airways)

ALL CARGO AIRLINES:

Federal Express
United Parcel Service
Airborne Express

Telford Aviation
Mountain Air Cargo
Wiggins Airways

TYPE OF PASSENGER AIRCRAFT OPERATED:

B-737 (various models)
B-757-200A-319
A-320
MD-80

CRJ-100/200
ERJ-135/145
Saab 340
ATR-42/72
DH Dash 8
B-1900

TOP 10 ORIGIN & DESTINATION MARKETS:

Baltimore, MD – BWI
Orlando, FL – MCO
Chicago, IL – ORD
Chicago, IL – MDW
San Francisco, CA – SFO

Los Angeles, CA – LAX
Phoenix, AZ – PHX
Tampa, FL – TPA
Philadelphia, PA – PHL
Las Vegas, NV – LAS

Source: Manchester Airport

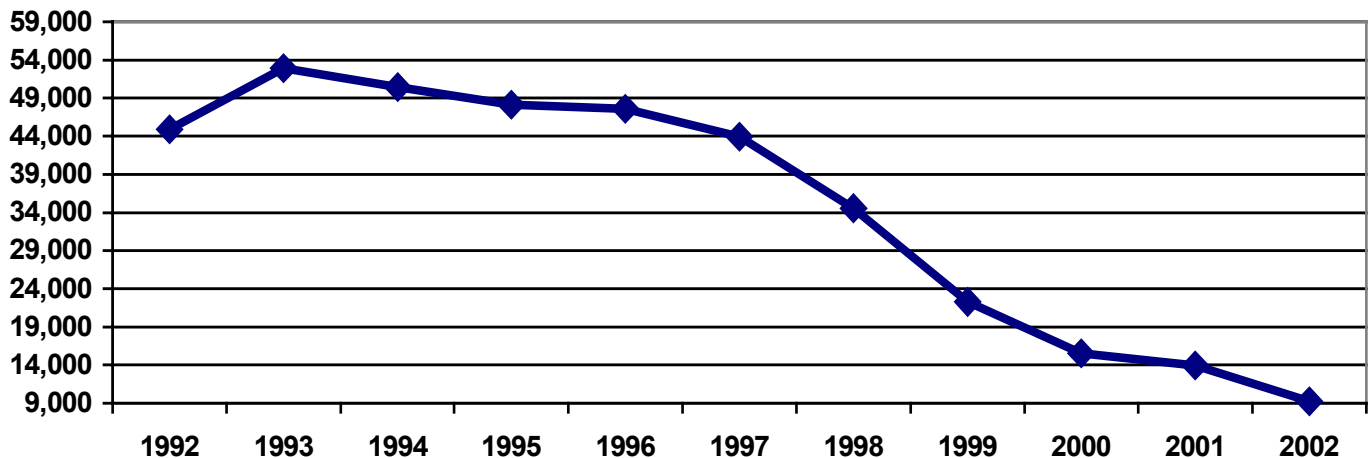
Manchester Airport's air cargo traffic has grown almost as fast as scheduled passenger traffic, with Federal Express, United Parcel Service, and Airborne Express, in particular, creating in effect mini-hub operations at MHT. Manchester is third in New England only to Boston-Logan and Bradley International Airports in terms of the volume of cargo traffic generated. Cargo traffic has grown from less than 35,000 tons in 1991 to 87,500 tons in 2000, an increase of 150%.

Manchester Airport will complete its major expansion program by 2004, which will result in the extension of both runways in addition to numerous other improvements, including expansion of the terminal building and a new airport access road. Runway 17-35 will be extended to 9,250 feet by 2004, which will allow non-stop trans-continental and Trans-Atlantic service, and the runway will also be equipped a Category III instrument landing system (ILS). The expansion program, which includes both landside and airside projects, will provide sufficient capacity to accommodate over 5 million passenger annually. Beyond the current expansion program, additional terminal expansion, a second parking garage, and other projects are anticipated.

Lebanon Airport

In 1993, passenger traffic at Lebanon Airport peaked with 52,929 enplanements, but has declined steadily since that time. Northeast Airlines, Precision, Business Express, and US Airways Express have served Lebanon over the years. As of late 2001, US Airways Express (Mesa Airlines operating as a US Airway Express carrier) is at LEB providing non-stop service to New York LaGuardia, Philadelphia, and Boston, using Beech 1900 turboprops. Figure 2-32 shows the historical passenger enplanements and Table 2-8 summarizes air service provided at Lebanon Airport.

Figure 2-32 – Passenger Enplanements - Lebanon Airport



Source: Lebanon Airport

Table 2-9 – Air Service Summary – Lebanon Airport	
PASSENGER AIRLINES:	US Airways Express (Colgan Airways)
TYPE OF PASSENGER AIRCRAFT OPERATED:	Beech-1900
NON-STOP DESTINATIONS SERVED:	3 flights a day to Philadelphia (PHL) 1 flight daily to Boston Logan International (BOS)
TOP 10 ORIGIN & DESTINATION MARKETS:	New York LaGuardia (LGA) Philadelphia, PA (PHL) Washington DC National Airport (DCA) Atlanta, GA (ATL) Charlotte, NC (CLT) Philadelphia, PA (TPA) Pittsburgh, PA (PIT) Columbus, OH (CMH) Chicago, IL (ORD) San Francisco, CA (SFO)
Source: Lebanon Airport	

One factor impacting passenger traffic is that Lebanon Airport is located within the market area of three other commercial service airports (Manchester, Bradley CT, and Burlington VT), all of which offer low-fare jet service, as well as multiple daily flights by a combination of both mainline and regional airlines. In addition, all three airports are connected by interstate highways from Lebanon (I-89 and I-91), which decreases average driving times compared to local and state routes.

- Manchester Airport - 80 miles (1 hour 30 minute drive via I-89, I-93, I-293)
- Bradley International Airport - 140 miles (2 hours 25 minute drive via I-91)
- Burlington International Airport - 91 miles (1 hour 38 minute drive via I-89)

Pease International Tradeport

Pease International Tradeport (PSM) is a former U.S. Air Force base that was one of the first military facilities put on the Base Realignment and Closure (BRAC) list in 1988. The base was formally closed on March 31, 1991, and is presently owned and operated by the State of NH under the jurisdiction of the Pease Development Authority (PDA).

Pease International Tradeport is still home of the NH Air National Guard's 157th Air Refueling Wing operating KC-135R aircraft, and also has one of the longest runways in New England (11,321 feet)². The Guard operates the control tower on a 24-hour basis, maintains the instrument approach NAVAIDs, provides aircraft rescue and firefighting (ARFF) services (in excess of ARFF Index E), and assists with snow plowing.

In addition to the runway, Pease International Tradeport also has recently constructed a 55,000s.f. terminal building, which includes six ticket counters, a loading bridge, as well as customs, agricultural, and federal inspection facilities for international passengers. Pease International Tradeport has developed plans for additional expansion of the terminal building if the need arises. As a result, Pease International Tradeport has all of the facilities necessary, as well as the operational capacity, to accommodate both domestic (including transcontinental) and international airline service.

However, airline service has been intermittent since the base became available for civilian use. Business Express (BEx) was based at Pease International Tradeport for several years, and both BEx and US Airways

². Only Bangor International Airport and Westover AFRB have slightly longer runways.

Express provided scheduled service from Pease International Tradeport in the 1990s. American Eagle acquired BEx, and both carriers terminated service at Pease International Tradeport.

As of 2002, Pan American Airways is based at Pease operating B-727-200 aircraft serving Sanford, FL, Bangor, ME, and Worcester, MA, with one daily departure to each destination. Pan Am also operates turboprop aircraft – the CASA 212 for cargo service, and BAE Jetstream 31 for passenger service. Figure 2-33 depicts Pan Am’s route structure, and Table 2-9 summarizes the air service at Pease International Tradeport.

Figure 2-33 – Pan Am Route Structure 2001



Source: Pan Am

Table 2-10 – Air Service Summary – Pease International Tradeport	
PASSENGER AIRLINES:	Pan American Airways
TYPE OF PASSENGER AIRCRAFT OPERATED:	B-727-200
SCHEDULED PASSENGERS	
ENPLANED	37,235
DEPLANED	37,235
TOTAL	74,470
NON-STOP DESTINATIONS SERVED:	1 flight daily to Sanford FL – SFB 1 flight daily to Bangor, ME – BGR 1 flight daily to Worcester, MA – ORH
TOP ORIGIN & DESTINATION MARKETS:	Sanford FL – SFB Pittsburgh, PA – PIT Sanford FL – SFB
ALL CARGO AIRLINES:	Express One Emery Worldwide
Source: Pease International Tradeport	

Like Lebanon, one factor affecting the level of scheduled service at Pease International Tradeport is its location, which is also within the market area of three other commercial service airports:

- Manchester Airport – 48 miles (55 minutes driving time via recently expanded Route 101)
- Portland International Jetport – 51 miles (60 minutes driving time via I-95)
- Boston Logan International – 57 miles (1 hour 20 minutes driving time via I-95)

Air cargo service has been provided since 1994 by Emery Worldwide, although they recently turned over air operations to Express One (based in Texas) operating B-727 aircraft. Total air cargo traffic is down approximately 40% in 2001 compared to the same period in 2000. Emery had a presence at Pease International Tradeport in terms of ground operations. A large part of the cargo carried by Express One is the U.S. mail, which will be carried by Federal Express by the end of 2001 under a new agreement between the U.S. Postal Service and Federal Express. As a result, Express One discontinued cargo service at Pease.

2.8 AIRPORT FINANCING

2.8.1 INTRODUCTION

How airports are managed, and whether they require subsidies to balance their operating and maintenance accounts on an annual basis, has a significant impact on local perceptions of the value of airports. Airport financing encompasses operating and maintenance (O&M) expenses, and revenues. Airport expenses are broadly divided into two categories:

- Operations and maintenance (O&M)
- Capital improvements

Airport Ownership

Airport sponsors (owners) are defined as the legal representative of the airport. The type of ownership affects the way airports are managed, as well as the financial resources available for their O&M and capital improvement program. There are three different ‘types’ of airport sponsors in New Hampshire: the State, municipalities, and private entities.

- State owned/operated airports:
 - Pease International Tradeport, Portsmouth, NH *
 - Skyhaven Airport, Rochester, NH
- Municipally owned/operated airports:

- Boire Field *	- Claremont	- Mt. Washington Regional *
- Manchester *	- Gorham **	- Plymouth **
- Concord	- Laconia *	- Dean Memorial **
- Lebanon	- Berlin	
- Dillant-Hopkins	- Parlin Field **	
- Privately owned/operated airports: **

- Errol	- Colebrook	- Twin Mountain
- Franconia	- Silver Ranch	- Newfound Valley
- Hampton Airfield	- Moultonboro	- Hawthorne
- Lakes Region		

* Pease International Tradeport, Manchester, Laconia, and Boire Field have Airport Authorities created by the state legislature. In each case the airport is owned by the State (PSM) or City (MHT, LCI, ASH), and the Authority acts as the legal representative for the State/City regarding the airport. Mt. Washington Regional Airport is owned by the Town but has a regional authority created by area municipalities.

** These airports are not eligible for federal grants, and are therefore not covered by FAA grant assurances. Lakes Region Airport is operated by legislative authority.

2.8.2 AIRPORT OPERATIONS AND MAINTENANCE (O&M) COSTS

Airport operations and maintenance (O&M) costs include pavement, utilities, building and grounds maintenance, items such as crack sealing, building repairs, as well as snow plowing, grass mowing, etc. In addition, those costs include personnel salaries and overhead for positions such as airport manager, maintenance staff, etc. Airport sponsors are responsible for the O&M costs associated with their airport, and those costs are typically not eligible for federal or state grants (with the exception of that portion of aircraft operating fees returned to airports by the Division of Aeronautics). Operating revenue generated at an airport from land and building leases, aircraft tiedowns, landing and parking fees, fuel flowage fees, concession leases, etc., are typically used to off-set an airport's O&M costs.

FAA grant assurances require that all revenue generated on-airport property must be accounted for and dedicated to airport-related projects. Sponsors cannot, therefore, put airport-generated revenue into their general fund accounts and use that revenue for police, fire departments, public works, etc.

In general, commercial service airports such as Manchester, Pease International Tradeport, and Lebanon have more revenue sources (such as airline leases, landing fees, and fuel flowage fees) as well as larger revenue streams available to cover their O&M expenses than do general aviation (GA) airports. According to airport managers, Manchester, Pease International Tradeport, and Lebanon, and GA airports such as Boire Field and Laconia, for example, generate more revenue than they expend in O&M costs. The majority of the remaining airports, however, do not operate 'in the black', and rely on subsidies from the airport sponsor to cover their annual O&M costs.

The American Association of Airport Executives (AAAE) conducts a detailed financial performance survey of airports around the country every two years³. The results of the survey are compiled by airport category (general aviation, commercial service-non hub, -small hub, -medium hub, and -large hub⁴.) Manchester Airport is classified as a small-hub airport, while Pease International Tradeport and Lebanon are classified as non-hubs. The remaining airports in New Hampshire are classified as general aviation. Boire Field is the only designated general aviation reliever airport in the state.

The results of the AAAE survey indicate that nationally, general aviation airports generate an average of \$5.946 in revenue per aircraft takeoff and landing (operation), while operating expenses total \$6.545 per aircraft operation. That means that the average GA airport has an operating deficit of \$0.599 per aircraft operation, which equals 10% of average operating revenue. A 'typical' general aviation airport with 25,000 annual operations would have an annual operating deficit of approximately \$15,000.

Boire Field, Skyhaven, and Laconia Airports, however, generate operating surpluses, and Concord Airport is close to break-even. By comparison, typical non-hub commercial service airports (airports in this category include Lebanon and Pease International Tradeport) generate a small surplus (2.9%), while small-hub airports (Manchester Airport is classified as a small hub) typically generate a larger surplus (32%). As noted previously, all of the surplus revenue must be expended on airport-related items such as O&M costs, or capital improvements.

Airports budget funds for O&M expenses as part of their annual budgeting process, which is reviewed and approved by the city or town council, or airport authority, as appropriate. It should be noted that a majority of municipalities in New Hampshire use general fund accounting systems, so they often cannot 'match' revenues generated on an airport against the annual appropriations for O&M costs.

³ Source: AAAE Survey of Airport Rates & Charges, 1995/96

⁴ This hub classification is defined by FAA based on the percentage of passenger enplanements compared to the national total. This classification is different from the term airline hubs, which are determined by airline service patterns.

Interviews held with airport managers throughout the state as part of this study revealed that there is a direct correlation between their financial performance and local political support (or lack thereof) for the airport. Those airports that do not operate in a break-even mode and that require annual subsidies, find there is much less political support than for those airports that achieve operating surpluses. The lack of political support was evident in terms of local unwillingness to invest any more than the minimum required to meet basic obligations at the airport, as well as extremely close scrutiny of all expenditures.

It should be noted that those airports that receive grants from the Federal Aviation Administration (FAA) are required to abide by a list of grant assurances. The state also has similar grant assurances that airport sponsors are required to sign as well. As a condition of issuing the grant, FAA requires airport sponsors to sign the assurances that legally encumber the sponsor. Grant assurances are a series of stipulations covering airport operation, maintenance, financing, and management, and in general, require the airport to be operated in compliance with all applicable federal regulations and policies.

One of the grant assurances (No. 25, excerpted below) requires that all of the revenue generated on an airport (from various fees, leases, and charges, etc.) must be spent on an airport. As a result, revenue generated on an airport cannot be spent for fire, police, public works, etc., although an airport may make payments to the city or town for services actually provided by the municipality to the airport (such as law enforcement, legal services, snow plowing, etc.).

“25. Airport Revenue. If the airport is under the control of a public agency, all revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport.”

Source: AC 150/5100-16A, *Airport Improvement Program Grant Assurance Number One - General Federal Requirements*

Some general fund accounting systems, however, do not have the ability to track the source of specific revenues, including those generated on an airport. FAA’s general policy is that a sponsor complies with the assurance if they can demonstrate that they expend as much money annually as is collected in revenue from airport operations. It should be noted that airports that do not receive federal funds, primarily privately-owned airports, do not have to comply with FAA grant assurances, although they must comply with state grant assurances if they have accepted grants from NHDOT.

With regard to State funding, similar grant assurances are also imposed on airports and they are similar to the FAA assurances. Major differences, however, are a 10- year obligation to keep the facility open and public use versus 20 years under federal assurances. If a new owner is established, the obligation transfers to the new owner who must pay the balance, or operate the facility as an airport for the remaining time of the grant.

2.8.3 AIRPORT MANAGEMENT

Only seven airports in New Hampshire have full-time, salaried airport managers:

- | | | | |
|---------------------------------|---------------|-------------------|----------|
| - Manchester | - Boire Field | - Dillant-Hopkins | - Berlin |
| - Pease International Tradeport | - Laconia | - Lebanon | |

At the remaining airports, the level of on-site management varies, and they fall into one of the following categories:

- Some have part-time managers who may, or may not, be employees of the municipality , and who may serve in a volunteer capacity
- The fixed base operator (FBO) acts as airport manager, in addition to running their on-airport business
- The director of the public works department or, in one case, the Fire Chief, also acts as airport manager
- The private airport owner is also the manager, and in some cases, the FBO
- There is no airport manager or fixed base operator, either part or full-time

One significant impact for publicly owned airports that do not have full-time managers is that typically no one represents the airport at the time the municipal budget is prepared and voted upon, or the individual advocating for the airport is responsible for other municipal agencies as well. However, paid airport staff (full or part-time managers) increase overhead costs, and for those airports that do not generate sufficient revenue to cover their annual O&M costs, such personnel can further increase the airport's operating deficit.

2.8.4 AIRPORT REVENUE SOURCES

Airports have a wide variety of revenue sources. FAA requires commercial service airports to prepare and file financial reporting forms (FAA Form 5100-125). The revenue sources and expense categories are described in FAA Advisory Circular 150/5100-19B, *Guide for Airport Financial Reports Filed by Airport Sponsors*, and the various revenue sources and expense categories identified by FAA include:

Operating Revenue Sources:

Aeronautical :

1. Landing Fees
2. Terminal Fees
3. Apron Charges/Aircraft Tiedowns
4. Fuel Flowage Fees
5. Utilities
6. Fixed Base Operating (FBO) Revenue
7. Cargo & Hangar Rentals
8. Securities Reimbursement
9. Miscellaneous Aeronautical Revenue (represents "smaller sources of operating revenue..., and should not exceed 5% of total aeronautical revenue.")
10. Other Aeronautical Revenue (includes income from "all other operating revenue sources")

Non-Aeronautical :

1. Land and building rent (e.g. industrial parks)
2. Concessions (e.g. restaurants, gift shops, etc.)
3. Auto Parking
4. Rental Cars
5. Catering
6. Interest
7. Royalties
8. Miscellaneous Non-Aeronautical Revenue (represents "smaller sources of operating revenue..., and should not exceed 5% of total aeronautical revenue.")
9. Other Non-Aeronautical Revenue (includes income from "all other operating revenue sources")

Non-Operating Revenue Sources :

1. Bond Proceeds
2. Sale of Property
3. Grant Payments
4. Passenger Facility Charges (PFCs)
5. Other

Revenue sources are determined by a number of factors such as:

- The type of activity at an airport (for example, scheduled airline passenger and cargo service, general aviation activity, etc.)
- The volume of activity conducted (the number and type of based aircraft and aircraft operations conducted)
- The number of fixed base operators (if any)
- The fee structure in place at the airport (such as transient parking and landing fees, for example). The airport sponsor determines the type and extent of fees charged.

Some airports have more property than is needed for aviation-related activities. That surplus property is then often used for commercial and industrial purposes that generate additional revenue for the airport in the form of land lease. Airports with surplus property that has been, or can be, developed for non-aviation purposes include:

- | | |
|--|-------------------------------|
| - Manchester (industrial park) | - Concord (industrial park) |
| - Boire Field (industrial park) | - Claremont (industrial park) |
| - Dillant-Hopkins (municipal sewer treatment plant) | - Lebanon (industrial park) |
| - Pease International Tradeport (commercial/industrial park) | - Laconia (industrial park) |

As noted earlier, general aviation airports typically have fewer revenue sources than commercial service airports. For example, only commercial service airports impose passenger facility charges (PFCs), and very few general aviation airports receive revenue from rental car concessions, cargo leases, catering, securities reimbursement, etc. In addition, the total amount of revenue generated is smaller at general aviation airports due to the lower volumes of traffic, which is also why fewer general aviation airports are not financially self-sufficient.

It should be noted, however, that commercial service airports must comply with Federal Aviation Regulations that do not apply to general aviation airports: FAR Part 139 - *Certification and Operations: Land Airports Serving Certain Air Carriers*, and TSR 1542 (formerly FAR Part 107)- *Airport Security*. Those regulations impose additional manpower and administrative requirements, as well as costs, on commercial service airports that are not required at general aviation airports. FAA has recently amended FAR Part 139 to apply to all airports with scheduled service by airplanes with more than 10 passenger seats, which includes airplanes such as Beech 1900s. Particularly since September 11, 2001, the cost of security – notably for explosive detection system (EDS) – has significantly increased security costs for commercial service airports, some of which has been reimbursed by the federal government.

Formerly FAR Part 139 applied to airports with scheduled service by airplanes with 30 or more passenger seats, such as the Saab 340, DH Dash 8, and ATR-42. The amendment increases the cost of complying with FAR Part 139 for those airports that have service by Beech 1900s, such as Lebanon, and was a factor in the decision made by Dillant-Hopkins to become a general aviation airport. In fact, the increased cost of complying with FAR Part 139, as well as the possibility of having to cover at least some of the cost of the control tower, have jeopardized Lebanon Airport's operating surpluses. At Pease International Tradeport, services such as aircraft rescue and firefighting (ARFF) are required by FAR Part 139, and the NH Air National Guard helped to bear these costs, as well as other costs associated with FAR Part 139 compliance.

2.8.5 CAPITAL IMPROVEMENT PROGRAMS

Airport capital improvement programs (CIP) involve construction of physical facilities such as runways, taxiways, tiedown aprons, terminal buildings, hangars, access roads, etc. In general, there are four sources of funding for airport capital improvement programs:

1. Airport sponsor
 - Internal funding sources (i.e. airport-generated revenue)
 - Municipal subsidies
 - Bonds (typically airport revenue bonds)
2. New Hampshire DOT
3. Federal Aviation Administration (FAA)
4. Private investment

In addition to these four, other potential sources of federal funding include the federal Public Works and Economic Development Program and the Economic Adjustment Program, both administered by the U.S. Department of Commerce, and also the U.S. Department of Transportation's Transportation Equity Act for the 21st Century (TEA-21), which promotes intermodal transportation. As funding sources for airports, however, they are relatively small compared to what is invested by airport sponsors, the FAA, and State.

There are eleven airports in New Hampshire included in FAA's National Plan of Integrated Airport Systems (NPIAS), which are eligible for FAA grants:

- | | | | |
|-------------|-------------------|------------------------|---------------------------|
| - Berlin | - Dillant-Hopkins | - Manchester | - Skyhaven |
| - Claremont | - Laconia | - Boire Field | - Mt. Washington Regional |
| - Concord | - Lebanon | - Pease Int. Tradeport | |

Three other airports are listed in the NPIAS (Silver Ranch, Plymouth Municipal, and Parlin Field) however they do not meet FAA's current criteria for receiving federal grants. The remaining airports rely strictly upon State and local funding:

- | | | | |
|-------------------|-----------------|--------------------|----------------|
| - Newfound Valley | - Errol | - Plymouth | - Hawthorne |
| - Lakes Region | - Franconia | - Twin Mountain | - Silver Ranch |
| - Moultonboro | - Gorham | - Hampton Airfield | - Parlin Field |
| - Colebrook | - Dean Memorial | | |

Federally Funded Airports

The single largest source of funding for general aviation airport capital improvement programs is FAA's Airport Improvement Program (AIP). Commercial service airports, particularly medium and large hubs, rely primarily on airport revenue bonds for capital improvement programs, and also use passenger facility charges (PFC) and FAA grants as well. Funding for FAA grants comes from the Airport and Airway Trust Fund, which one of several national transportation trust funds created by the U.S. Congress.

Revenue for the Aviation Trust Fund is generated by federal taxes on:

- Domestic passenger ticket (7.5%)
- Passenger flight segments (\$3.00 per segment in CY 2002)
- International passenger departures and arrivals (\$12.00 per person)
- Passenger tickets at rural airports (7.5%)

- Waybill domestic freight and mail (6.25% of shipment cost)
- Commercial fuel (4.3 cents/gal.) and general aviation fuel (19.3 cents/gal. Avgas – 21.8cents/gal. Jet A)
- Frequent flyers (7.5% of ticket value)
- Special rule: for flights between US and Alaska or Hawaii (\$6.00 per departure)

Source: FAA Order 5100-38A, *AIP Handbook*, Chapter 1

No general tax revenue goes into the Aviation Trust Fund. Congress determines the amount of money appropriated each year from the Trust Fund for the AIP as part of the FAA's overall funding authorization.

The U.S. Congress passed a four-year AIP known as the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (a.k.a. AIR-21). AIR-21 covers the years FY 2000 – 2003, and although it is a multi-year program, Congress must appropriate specific funding levels each fiscal year (FY)⁵. For FY 2001, Congress appropriated \$3.2 billion for the national AIP, and appropriated \$3.3 billion for FY 2002 for all airports in the NPIAS.

The FAA's airport improvement grant program is divided into two basic categories:

- *Entitlement Grants* set aside a certain amount of money for airports in each fiscal year. Entitlement grants for commercial service and cargo airports are based on the volume of traffic generated, while entitlement grants for general aviation airports are set by formulas established in the legislation. If an entitlement grant is not spent in a given fiscal year, it can be carried over to following years within certain limits.
- *Apportionment* is a specific allotment of money provided to the State for use for the GA airports. There are eight airports included in the apportionment, plus continuous system planning grants provided for the Division of Aeronautics. The apportionment is determined through a formula and is based on the number of aircraft, population and other factors defined by the FAA. The Division of Aeronautics maintains the apportionment through their annual Capital Improvement Program with the GA Airports.
- *Discretionary Grants* for all remaining projects other than entitlements. Discretionary grants provide flexibility for FAA and are awarded based on a priority ranking system. Discretionary grants are awarded to both commercial service and general aviation airports. Discretionary grants are used primarily for capacity/safety/standards/noise related projects. There are also so-called 'discretionary set asides' – a minimum amount of the discretionary allocations must be awarded for noise mitigation programs (such as at Manchester Airport), reliever airports (Boire Field), and the military airports program (Pease International Tradeport).

FAA grants typically pay for 90% of an eligible project's costs, while the state normally pays 5% and the sponsor pays 5%. For Pease and Skyhaven, as well as state-sponsored projects such as the statewide airport system plan, NHDOT pays the 10% local share of the total project cost.

In general, in order to be eligible for FAA grants, airport facilities must be 'public use'. Conversely, projects such as hangars and those portions of terminal buildings leased to private operators are not eligible for FAA grants.

All FAA grants are issued through the NH Department of Transportation, Division of Aeronautics. Entitlement grants to Manchester, Pease International Tradeport, and Lebanon, which are based on the number of their scheduled passenger enplanements, essentially 'pass-through' NHDOT and go to each airport. All other FAA

⁵ The federal fiscal year runs from October 1 – September 30, and the State of New Hampshire's fiscal year runs from July 1 to June 30.

grants, particularly for general aviation airports, are reviewed and processed by NHDOT Division of Aeronautics.

Airports in FAA's NPIAS are requested by FAA and NHDOT to prepare a five-year capital improvement program (ACIP). ACIPs, which are updated annually, list the projects that each airport would like to undertake, the estimated cost of each project, proposed funding sources, the year in which it should occur, and the relative priority of each project. The FAA and NHDOT use each airport's CIP to develop their statewide CIP.

In federal fiscal year 2001, the FAA issued approximately \$2.8 million in grants to eight general aviation airports (Skyhaven, Berlin, Claremont, Concord, Dillant-Hopkins, Laconia, Boire Field, and Mt. Washington Regional), as well as projects sponsored by NHDOT. The majority of the money was disbursed as apportionment/entitlement grants. The total funding requested by the eight airports and the State was almost \$2.8 million, and there was a remaining balance of approximately \$151,000. NHDOT spent \$195,000 as part of the state's matching share in FY 2001.

FAA grants to airports in New Hampshire increased significantly in FY 2000 and 2001, primarily due to Manchester Airport's development program. Table 2-11 presents the FAA AIP Grants awarded by airport category between FY 1997 and FY 2002. See Appendix 2-D for a list of FAA grants to each eligible airport since FY 1982.

Table 2-11 - FAA AIP Grants By Airport Category – New Hampshire								
	Primary ^{a)}		Reliever ^{b)}		General Aviation ^{c)}		Total Grants	
Fiscal Year	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1997	4	\$12,034,614	1	\$46,800	6	\$1,503,769	13	\$18,006,125
1998	2	\$521,544	0	0	7	\$2,569,263	10	\$3,274,407*
1999	3	\$5,264,000	2	\$185,054	8	\$2,640,880	13	\$8,089,934
2000	6	\$18,349,484	1	\$427,781	8	\$7,682,423	15	\$26,459,688
2001	6	\$18,150,881	1	\$256,680	13	\$2,836,434	20	\$21,243,995
2002	8	\$22,732,344	2	\$276,738	13	\$2,948,430	23	\$25,957,512

Source: FAA Program Implementation Branch, APP-520

a) Primary airports = Manchester, Lebanon, Pease International Tradeport
b) Reliever airport = Boire Field
c) General aviation airports = Skyhaven, Berlin, Claremont, Concord, Dillant-Hopkins, Laconia, Mt. Washington Regional
* Includes a grant for the State System Plan for \$183,600

The State's portion of the local share is provided by the General Court, which appropriates the money as part of the State's biennium budget (Table 2-12). The State of New Hampshire does not have an active aviation trust fund similar to the FAA's trust fund, or similar to other states such as Florida, Pennsylvania, etc.

Non-Federally Funded Airports

The remaining fourteen airports within the State's airport system are funded through a number of State legislative programs and private investment. The Division of Aeronautics has five programs that provide the non-federally funded airports with money. The programs are summarized in the following bullets:

- *Tax Reimbursement Program* – This program is funded through the Division of Aeronautics' biennium budget. The budget is \$10,000. Under this program, the privately owned airports can tap into this funding to pay a portion of their annual tax bill. The Division of Aeronautics determines the amount of



land used as public use, non-revenue generating airport and determines an amount of the tax bill that is eligible for this funding.

- *Grants to Airport Sponsors* – This program has a budget of \$57,252 and is somewhat variable. This funding is distributed using a formula developed by the Division of Aeronautics. The formula takes into account based aircraft, operations, and available facilities. Up to 90% of this money can go to the non NPIAS airports, and a maximum of 10% may be distributed to the federally funded airports.
- *Aircraft Operating Fee Return* – The Division of Aeronautics collects registration fees on based aircraft within the state. A portion of the fee, 25%, is returned back to the airport sponsor.
- *50/50 Match Program* – This program is similar to the CIP program, but is based upon a 50/50 match between the airport sponsor and the Division of Aeronautics. This program has a budget of \$23,000.
- *Revolving Loan Program* – The Division of Aeronautics also has a revolving loan program in which low interest loans are available to the public use airports.

The Division of Aeronautics does not have a formal CIP program for the non-federally funded airports. Currently, if a public use airport requests funding for a project, they often go through the 50/50 match program. Funds obtained from the other programs amount to only a few thousand dollars and would not be adequate to fully fund projects proposed by these airports. Based on discussions with Division of Aeronautics staff, the program budget is often met. However, in the past several years, there are projects that could not be funded under this program and were deferred to the next year. Based on this discussion, the budgeted level is probably not adequate to fund all of the projects that may be submitted over an annual period. Further discussions indicate that the likelihood of increasing the budgeted funding is not likely.

The lack of a formal CIP process for the non-federally funded airports is a concern. Developing such a program with these airports could help the Division of Aeronautics estimate the amount of funding that would be necessary to meet the needs of these airports. It is understood that these airports typically as small airports with little or no staff managing the facilities. However, if the program were limited to two or three years in the future, it is likely that the CIP would better reflect the needs of the airports than if no program were in place to assess the needs currently.

Another option is to develop a program for the non-NPIAS airports similar to the program instituted by the NJDOT Division of Aeronautics. Many airports within New Jersey's aviation system are small privately owned airports. In order for the NJDOT Division of Aeronautics to understand what capital projects were needed to develop the airports and to identify development issues such as environmental, financial, and municipal, the Division of Aeronautics developed a program to develop mini master plans. Each airport will develop mini master plan consisting of an Airport Layout Plan (ALP) and a corresponding report that details existing conditions and planned development for the airport. A capital improvement program is developed and provides the Division of Aeronautics with an estimation of projects and funding requirements for the system of airports on an annual basis. The mini master plans cost around \$80,000 each and have been completed by consultants through a multiple airport, multiple year contract. Funding is provided by the State through a dedicated trust fund established by NJDOT.

Such a program for NHDOT Division of Aeronautics would be extremely beneficial since information on the non-NPIAS airports is limited at best. This program would organize and define the financial requirements for the aviation system on an annual basis. By doing this, the Division of Aeronautics could fully estimate the financial requirements for the system of airports and work with the DOT and the State Legislature to increase funding for airports beyond the 50/50 match program and revolving loan program.

The State charges aircraft operating fees based on the weight of the aircraft, 25 % of which is returned to the airports at which the airplanes are based, as shown in Table 2-12. As noted above, the Division of Aeronautics returns 25% of the operating fee back to the airport sponsors. The remaining 75% of the aircraft operating fees are remanded to the State's General Fund. Three airports, Manchester, Boire Field, and Pease International Tradeport, received 90% of the money because of the number of based aircraft at those airports, and the fact that a number of the airplanes are high-value corporate jets and turboprops. The airlines using Manchester, Lebanon and Pease International Tradeport are not required to register their airplanes with NHDOT, so they do not pay registration fees and are therefore not counted as based aircraft.

Table 2-12 - Operating Fees Returned to Airports by NHDOT – 2002			
AIRPORT	AMOUNT	AIRPORT	AMOUNT
Berlin	\$538.36	Claremont	\$375.29
Colebrook	\$178.76	Concord	\$3,367.58
Errol	\$0.00	Foss Heliport	\$210.39
Franconia	\$189.76	Gorham	\$218.59
Hampton	\$3,593.60	Dean Memorial	\$550.17
Hawthorne	\$284.22	Silver Ranch	\$493.48
Dillant-Hopkins	\$2,454.14	Laconia	\$13,887.43
Lebanon	\$11,096.20	Manchester	\$28,742.87
Moultonboro	\$442.23	Boire Field	\$67,514.07
Parlin Field	\$751.08	Pease	\$62,163.95
Plymouth	\$248.06	Skyhaven	\$1,249.36
Twin Mountain	\$193.20	Mt. Washington Regional	\$537.61
Lakes Region	\$321.64	TOTAL	\$200,083.95
Source: NH Department of Transportation, July 2003			

The State of New Hampshire also levies excise taxes on aviation fuel (both Jet A and avgas), the proceeds from which go into the state's General Fund.

In addition, the State does not collect sales or use tax on aircraft or parts, which has actually provided an incentive for out-of-state aircraft owners to base their airplanes in New Hampshire. In particular Boire Field, Pease International Tradeport, Dillant-Hopkins and Silver Ranch in Jaffrey, among others, have attracted airplanes from Massachusetts, Connecticut and Vermont, who want to take advantage of New Hampshire's lack of a sales tax. In fact, the State of Connecticut changed its tax rate on general aviation airplanes several years ago (airplanes were previously taxed as personal property), and the Massachusetts legislature (*Aircraft Sales Tax Bill*, H 3207) exempted aircraft and parts from the state sales tax in early 2002. Both Connecticut and Massachusetts have taken such actions in an effort to discourage airplanes bought by their residents from being based out of state in New Hampshire.

In 2001, New Hampshire allocated the majority of the \$57,242 grants to airport sponsors to airports not eligible for federal funding (Colebrook, Errol, Franconia, Gorham, Hampton Airfield, Dean Memorial, Hawthorne, Silver Ranch, Moultonboro, Parlin Field, Plymouth, Twin Mountain, and Lakes Region-Wolfeboro). Each of the non-NPIAS airports receive a \$500 fixed grant annually, in addition to variable allocations based on their capital improvement needs. The majority of those airports, although not all, are privately owned and operated. Any additional investment required for capital improvements comes from the sponsor and/or other private sources.

Because the U.S. Congress must appropriate money from the Trust Fund each fiscal year, the State and airports do not know how much federal money will be available beyond the current fiscal year. The State has projected that FAA grants (general aviation apportionment and entitlements) will equal approximately \$2.6 million for

each fiscal year between 2003 and 2006. At that level, there are some fiscal years where demand for funding will be greater than the grants available. If Congress appropriates less than \$2.6 million for NH in a given fiscal year, then the shortfall in the out years could be significantly larger.

On the other hand, if Congress were to significantly increase the amount of federal funds available each year for capital improvements in New Hampshire, the increased federal funding would require a corresponding increase in both the state and local share in order to match the higher federal grants.

Another source of funding for airport improvements is private investment, even at publicly owned airports. Private parties make investments in most airports in New Hampshire, primarily in the form of hangar development. For example, private parties built all of the hangars constructed at Boire Field and Laconia Airport; at Manchester Airport, Wiggins Airways constructed a large fixed base operation (97,000 SF) that included hangars, offices, meeting rooms, etc.

At other airports in the state, private entities have constructed both conventional and T-hangars. In addition, private parties undertake almost all of the industrial and commercial development that occurs on airport property. At most publicly-owned airports, private entities lease the property on which their building is sited, and the leases often contain a reversion clause that states within a given time period (typically between 20 - 40 years) all aviation-related buildings (such as hangars, etc.) will revert to the airport's ownership. The private owner often has first-right-of-refusal to lease the building from the airport after ownership has been transferred.

The primary advantages of private investment include lower capital outlays by the airport sponsor, no responsibility for the maintenance of the facility or the collection of rent or lease payments from building tenants. However, over a twenty-year period, an airport sponsor could receive more revenue if the airport constructed airport buildings and leased them to private tenants. Hangars and other facilities that are used by private entities are typically not eligible for federal or state grants, so airport sponsors would have to assume the full cost of construction and maintenance, and as a result, private investment is a popular alternative.

2.9 ENVIRONMENTAL FACTORS

Airports in New Hampshire, and across the country, are facing increasing scrutiny from resource agencies. As a result, compliance with various local, state, and federal environmental regulations and procedures is often very complex, time-consuming, and expensive. Further, there is no guarantee the proposed airport project will be approved or issued permits after the review process is completed. Chapter 7 of this study deals with environmental issues in more detail.

Since the passage of the National Environmental Policy Act (NEPA) in 1969, environmental issues have become increasingly important, and costly, factors in terms of day-to-day airport operations and development. This section describes the various environmental regulations that airports must comply with and incorporate into their planning and project construction. Presented is a review of the environmental process as required by FAA Order 5050.4A *Airport Environmental Handbook*. The information provided here is not intended to address specific environmental issues associated with each of the 25 airports within the NH State Airport System, as each airport is unique with respect to its relationship within the environment.

In addition to federal agencies and regulations, the State of New Hampshire also has responsibility for protecting the environment, and the NH Department of Environmental Services (DES) serves as the lead agency for the state in fulfilling that responsibility. Among some of the DES' guiding principles are:

- Consider the quality of life, health and safety, and concerns and aspirations of all our citizens while pursuing our responsibilities under the law
- Commit to scientifically and technically sound, cost effective and environmentally appropriate solutions
- Commit to providing leadership on environmental issues
- Consider the long-term and cumulative effects of our policies, programs and decisions
- Effectively and fairly enforce against those who violate environmental laws

Airports in New Hampshire are subject to the same environmental regulations and guidelines as other governmental agencies and private entities. Three areas of environmental concern that have been addressed by a number of airports in New Hampshire include:

- Mitigating aircraft noise and promoting compatible land use
- Protection of wetlands and wildlife habitat
- Enhancing stormwater runoff collection and disposal

Regulations promulgated by federal and state agencies directly impact airports and their tenants. The U.S. Environmental Protection Agency (EPA), for example, had adopted regulations regarding the testing, monitoring, and replacement of underground storage tanks (UST). As a result of that regulation, many fixed base operators and airport sponsors had to replace their existing UST, and to clean up any contamination that may have occurred from leaking tanks. Compliance with the regulation was, in some cases, extremely expensive.

It should be noted that environmental resource and permitting agencies have adopted the policy of considering the cumulative impacts of all proposed development on an airport. As a result, the cumulative impacts of the projects shown on an Airport Layout Plan (ALP) that depicts a twenty-year development program may be considered by permitting agencies, as opposed to reviewing projects individually and separately.